

ENVIRONMENTAL PRIORITY INITIATIVE

PRELIMINARY ASSESSMENT

OF

COMPU DYNE, VEGA PRECISION LABORATORIES

VA-469

AKA. General Indicator Corp.

Submitted By:

Commonwealth of Virginia

Department of Waste Management

September 7, 1990
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1.0 BACKGROUND INFORMATION

1.1 Site Location

Vega Precision Laboratories (a wholly owned subsidiary of Compu Dyne, Incorporated) is located in Vienna, Virginia at 800 Follin Lane. Its site coordinates are $38^{\circ}54'05''$ N and $77^{\circ}15'30''$ W (figure 1).



Figure 1 Site Location Map

1.2 Site Layout

The Vega Precision Laboratories (VPL) facility consists of one 120,000 ft² primary building and a 1800 ft² auxiliary building (figures 2 & 2a). The primary building encompasses the bulk of the facility's operations including administration, engineering, production, and quality assurance. The auxiliary building serves as the facility's paint shop.

1.3 Site History

VPL began operations at its present Vienna, Virginia location on April 22, 1972. In 1979 the facility was sold to Compu Dyne, Incorporated. For a short time, VPL was a part of the General Indicator Group and the Robintech Group of Compu Dyne, Incorporated. VPL is currently a wholly owned subsidiary of Compu Dyne, Incorporated.

On September 11, 1981, VPL received Interim Status from the United States Environmental Protection Agency subject to regulations promulgated under the Resource Conservation and Recovery Act (RCRA); however, according to VPL personnel, the filing for Interim Status was a mistake as the RCRA definition of "container" was misinterpreted. According to a letter dated September 19, 1986, from Robert Roland, VPL Vice President, to Renee Tyson, VDWM Chemist, VPL "never stored hazardous waste in containers for over 90 days nor did they ever treat waste in tanks." Based on this and other hazardous material quantity information, the VDWM decided to begin the process to terminate the facility's Interim Status. However during a site inspection, two 55-gallon drums of paint sludge and solvents were found being stored on-site. These drums contained paint sludge and solvents generated off-site by Company personnel painting VPL produced equipment (Appendix D). This transportation and storage of off-site generated wastes actually activated the Interim Status. VPL was subsequently ordered to submit a closure plan for the drum storage area. On May 23, 1989, Erica Dameron, VDWM Environmental Engineer, certified in writing that all necessary actions as required by the closure plan had been completed (Appendix D). On August 17, 1990, VDWM Pre-Remedial Superfund Program personnel, in cooperation with the United States Environmental Protection Agency CERCLA and RCRA programs, performed an Environmental Priority Initiative site visit.

2.0 ENVIRONMENTAL SETTING

2.1 Population

Based on 1989 population estimates from the Northern Virginia Regional Planning District, the population within a four mile

ORIGINAL
(Red)

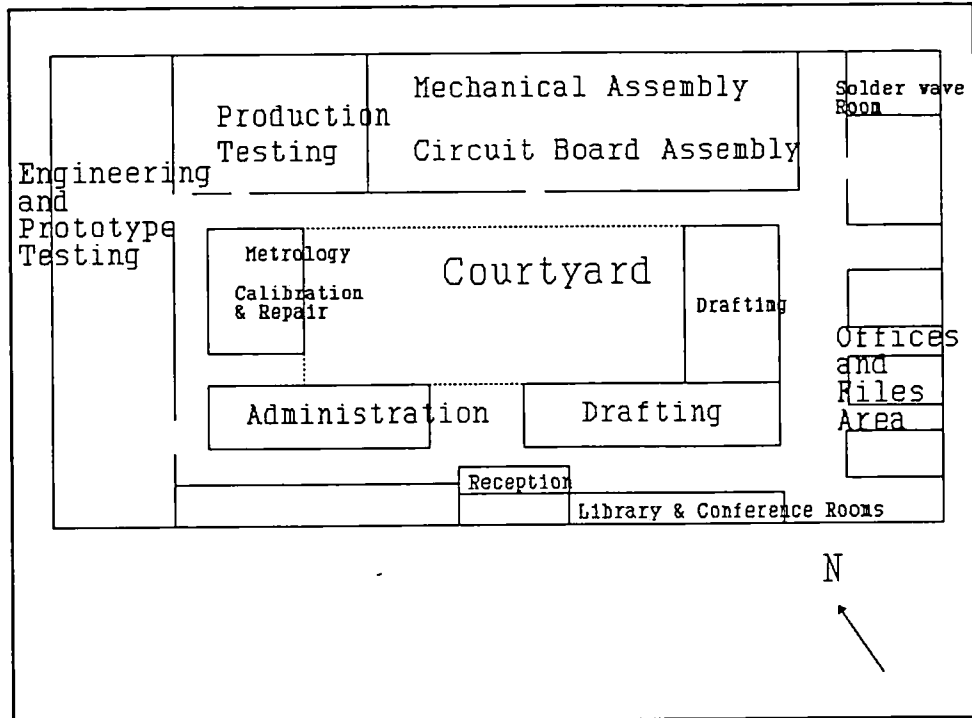


Figure 2 Vega Precision Labs; 1st Floor

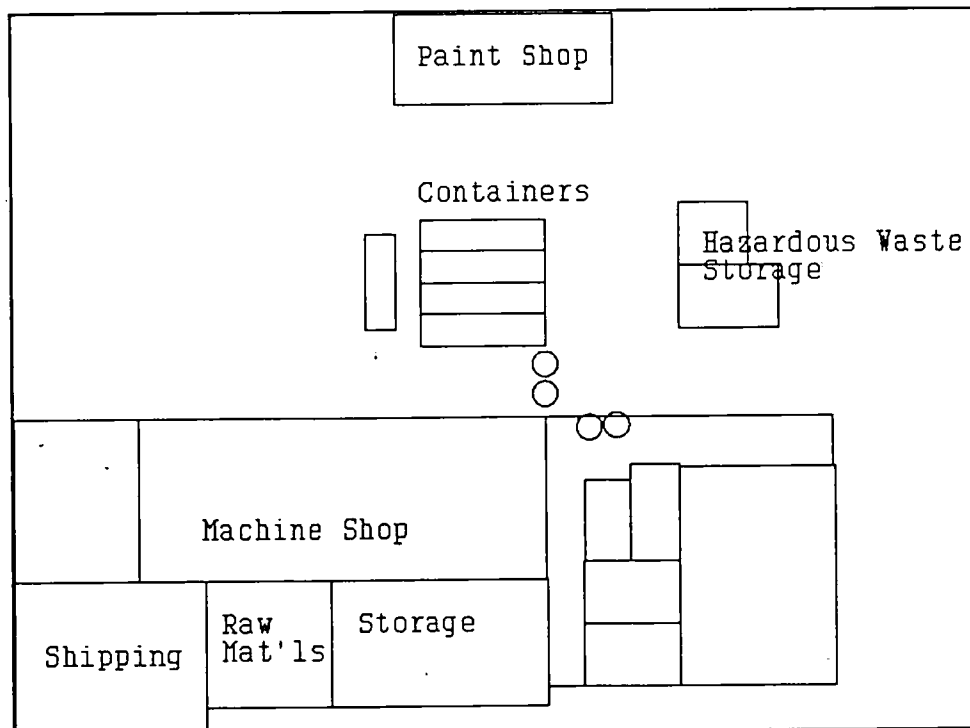


Figure 2a Vega Precision Labs; Basement

radius of the site is 129,389, within a three mile radius is 78,685, within a two mile radius is 40,267, within a one mile radius is 10,066, and within a one quarter mile radius is 2516.

2.2 Climate and Topography

Average annual precipitation, as recorded by the Vienna WSO AP station, is 45.64 inches (116 cm.). The highest normal monthly precipitation is in August and is 4.68" (11.89 cm.) and the lowest is in February and is 2.71" (6.88 cm.). Taking into account potential evaporation, the average annual precipitation is 11.51 inches. The average yearly temperature is 55.4°F with January having the lowest average monthly temperature, 35.2°F, and July having the highest average monthly temperature, 78.9°F.

The site is situated at approximately 450 feet above mean sea level near the top of a northwesterly sloping ridge.

2.3 Land use

A two mile radius of the site includes the town of Vienna and part of the city of Falls Church. Within a two mile radius, land use is predominately commercial and high density residential. As one moves farther east and west of the site, farther into Falls Church and closer to the city of Fairfax, high density land use greatly increases. Commercial activity decreases to the west as the number of single family, suburban dwellings increase.

2.4 Geology and Soils

Compu Dyne is located within the Piedmont Physiographic Province of Virginia. The Piedmont of Virginia is characterized by an extensive complex of igneous and metamorphic rocks, Pre-Cambrian to Paleozoic in geologic age, underlying thick layers of saprolite. Although no geologic maps exist for the Vienna, Virginia area, it can be determined through the use of existing geologic maps for surrounding areas and United States Department of Agriculture Soil Surveys, that the Wissahickon formation most likely underlies the site.

In Virginia, the Wissahickon formation consists of phyllite, mica schist, phyllitic schist, and quartzite. Based on Soil Survey information, the schist facies of the Wissahickon formation appears to underlie the site. The principal constituents of the schist are quartzite, sericite, and chlorite. Minor constituents include pyrite, magnetite, and ilmenite. Schistosity of the formation generally follows a northeastward trend and the strike of the formation generally ranges from N 17° W to N 53° E. An extensive system of vertically dipping joints, striking northwest to west, and another system of joints, dipping approximately N 30° SE and striking northeast, occurs throughout Fairfax County (Johnston, 1963).

The Wissahickon formation weathers rapidly producing red to yellow micaceous silt loams. According to a USDA Soil Survey of Fairfax County, either the Glenelg or Beltsville silt loam soil series underlie the site. While both soil series are derived from sericite schists, the Beltsville is typically more poorly drained than the Glenelg and exhibits fragipan (thin, dense, sandy horizons) characteristics. Depth to bedrock generally is approximately 100 feet on uplands, 95 feet on hilltops, and 60 feet in gullies. Typical soil profiles are as follows (Porter, Elder, and Henry, 1963):

Beltsville

0"-7"	yellow-brown friable silt loam
7"-17"	strong brown, firm, heavy silty clay loam
17"-19"	mottled strong brown, yellow brown, reddish yellow firm silty clay loam; transition to fragipan layer
19"-48"	dark brown loam to silt loam, mottled with light gray and pale brown; fragipan layer
48"+	soft, highly weathered sericite schist

Glenelg

0"-7"	yellow-brown, very friable silt loam
7"-18"	yellowish-red, friable silty clay loam, containing small flakes of mica
18"-24"	strong brown, friable to very friable, silt loam
24"+	light reddish-brown, highly weathered quartz sericite schist

3.0 HYDROLOGY

3.1 Ground Water

Groundwater within the Piedmont Physiographic Province typically occurs within two distinct, but interconnected, zones. The uppermost zone is comprised of soil and saprolite. The saprolite has hydrologic characteristics of unconsolidated sediments but its permeability is lower due to its residual nature and high clay content. This zone acts as a recharge zone for the lower bedrock zone. Groundwater within the bedrock zone typically occurs within fractures and joints created by structural deformation and within more porous metasedimentary rocks.

3.2 Surface Water

Wolftrap Creek is located less than 0.25 miles north of the facility. Wolftrap Creek flows in a northwesterly direction for approximately 5.5 stream miles until confluencing with Difficult Run. Difficult Run flows for approximately 3.5 stream miles until finally spilling into the Potomac River at Great Falls National Park. Based upon information gathered from a gaging station located at Great Falls National Park, the average flow of Difficult Run is 35 cubic feet per second.

3.3 Water Supply

The area surrounding VPL is supplied potable water by the Fairfax County Water Service Authority (FCWSA). The FCWSA receives water from the Occoquan River approximately thirteen miles south of the site and from the Potomac River, approximately eight miles north of the site, upstream of the Difficult Run-Potomac River confluence.

4.0 WASTE HANDLING AND DISPOSAL PRACTICES

4.1 Process Description

Vega Precision Laboratories manufactures transponders, command and control systems, antennas, and special test equipment for government and commercial customers throughout the world. VPL's equipment provides primarily for the tracking and remote control of airborne vehicles.

There are basically five departments within Vega Precision Laboratories. These are the Production Department, the Testing Department, the Engineering Department, the Quality Assurance Department, and the Administrative Department.

The Production Department, located at the northeast side of the primary building, consists of two sections: the assembly operations and the assembly operations' support processes. The assembly operations can be further broken down into "circuit board assembly" and "mechanical assembly." Operations within the circuit board assembly area include soldering, bonding, and staking, and as its name implies, the actual assembly of the circuit boards takes place here. The mechanical assembly area combines circuit boards assembly along with numerous other subassembly components into functional equipment packages. Operations in the mechanical assembly area include bonding, marking, wiring, etc. Small quantities of cleaners and solvents are used in both of these areas and a small amount of waste solvents accumulate. Eccofoam^R (Appendix C) is often removed in the mechanical assembly during disassembly of suspect defective parts. Eccofoam^R acts as an insulator and protects the circuits boards from shock generated by

flight ignition forces.

The support processes for the assembly operations can also be further broken down into a machine shop and a paint shop. The machine shop actually fabricates the aluminum, brass, steel, and polymers to be used in the assembly of the transponders. To inhibit corrosion, the aluminum undergoes a chromate conversion plating process. The conversion process consists of two primary steps. First the metal is "etched" in a 120 gallon tank filled with a sodium hydroxide solution. This removes excess metals on the surface of the metal. After rinsing the "etched" metal is dipped into a solution of chromic acid (120 gallon tank). In addition to inhibiting corrosion, the conversion process also increases the conductivity of the metal and creates a more paint adhesive coating. The waste rinsewater is non-toxic and is discharged into the local public water treatment system. The chromic acid solution is used until exhaustion and is then stored in the corrosive chemical storage container (SWMU #7) until it is picked up by Laidlaw Environmental Services. The conversion room is located in the basement of the primary building. During the fabrication of the metal parts in the machine shop, Trimsol^R (Appendix C) is used as a cooling and lubricating fluid.

The Testing Department is located on the first floor of the primary building and its primary functions are to electronically test the completed transponders and to repair malfunctioning transponders. Before a transponder can be taken apart to be repaired, the Eccofoam must first be dissolved with Dynasolve^R, thus creating small quantities of waste solvents.

The Engineering Department, located on the first floor, on the northwest side of the primary building, is responsible for the design and prototype testing of the transponders and their sub-components. Within the Engineering Department there are two small production and testing areas. These small areas perform the same functions as the larger Production and Testing departments, just on a much smaller scale. Drafting, located on the opposite side of the first floor in the primary building, is also part of the Engineering Department.

The Quality Assurance Department's primary responsibility is to ensure the integrity of anything used during the production process. Quality Assurance Inspectors routinely check for and confiscate out-of-date chemicals. The Quality Assurance Department also inspects and performs small scale repairs of the electronic and mechanical equipment used to build the transponders.

The Administrative Department, located on the first floor on the southwest side of the primary building, is responsible for the day-to-day administrative and managerial functions at VPL.

4.2 Solid Waste Management Units

The definition of a Solid Waste Management Unit (SWMU), according to the EPA, is "any landfill, surface impoundment, waste pile, land treatment unit, incinerator tank, container storage unit, injection well, wastewater treatment units elementary neutralization unit, transfer station, and recycling unit that received solid or hazardous waste at any time." For purposes of this report, the SWMUs will be separated into existing SWMUs as shown in figures 3 and 3a and those existing as of June 30, 1989 as shown in figures 4 and 4a. The number of satellite SWMUs has substantially decreased since 1989 due to production decreases. VPL currently operates three primary SWMUs and four satellite collection SWMUs. Hazardous wastes are dated on the first day of accumulation in the primary SWMUs while they are not dated while at the satellite stations. Laidlaw Environmental Services picks up the facility's hazardous wastes.

4.2a Existing SWMUs

SWMU #1- Solder Wave Room Satellite Storage Area

SWMU #1, located in the Solder Wave room within the primary building, consists of two five gallon plastic chemical containers. These two containers are situated within a chemical storage cabinet. One five gallon container stores fluxes, cleaners, and solvents from the Production Department. The second five-gallon container stores Dynasolve 170^R and waste Eccofoam^R from the Production Testing Department. Material Data Safety Sheets for these two materials can be found in Appendix C. SWMU #1 began accepting wastes in March 1990. There are no plans, at this time, for the closure of this SWMU.

SWMU #2- Vapor Degreasing Satellite Storage Area

Located in the basement of the primary building, in the hallway next to the machine shop, SWMU #2 consists of one 55-gallon drum which stores vapor degreasing solvents, primarily Blaco-Tron^R. There is not, nor has there ever been, a containment system for this SWMU. SWMU #2 has been in operation since 1982 and there are no plans for closure at this time.

SWMU #3- Paint Shop Satellite Storage Area 1

Located in the northeasternmost section of the Paint Shop, SWMU #3 consists of a five gallon metal container used to store waste HumiSeal^R (Acrylic Resin, Polyurethane Resin, Surfactants and Solvents). This SWMU has been in operation since the Paint Shop was built in 1988 and there are no plans for closure at this time.

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(Red)

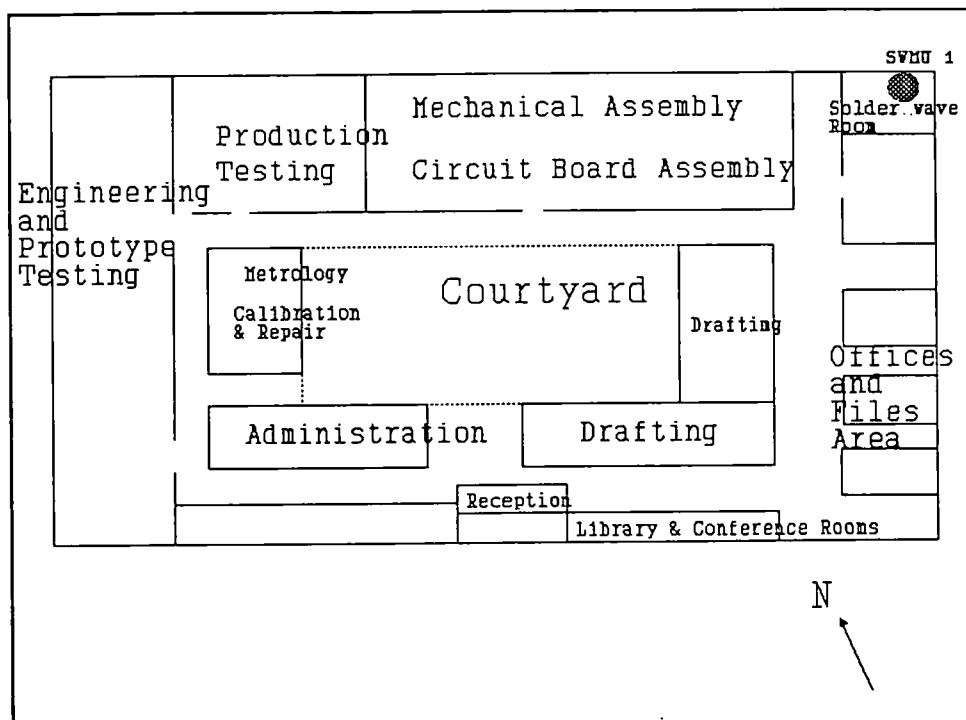


Figure 3 Existing SWMUs; 1st Floor

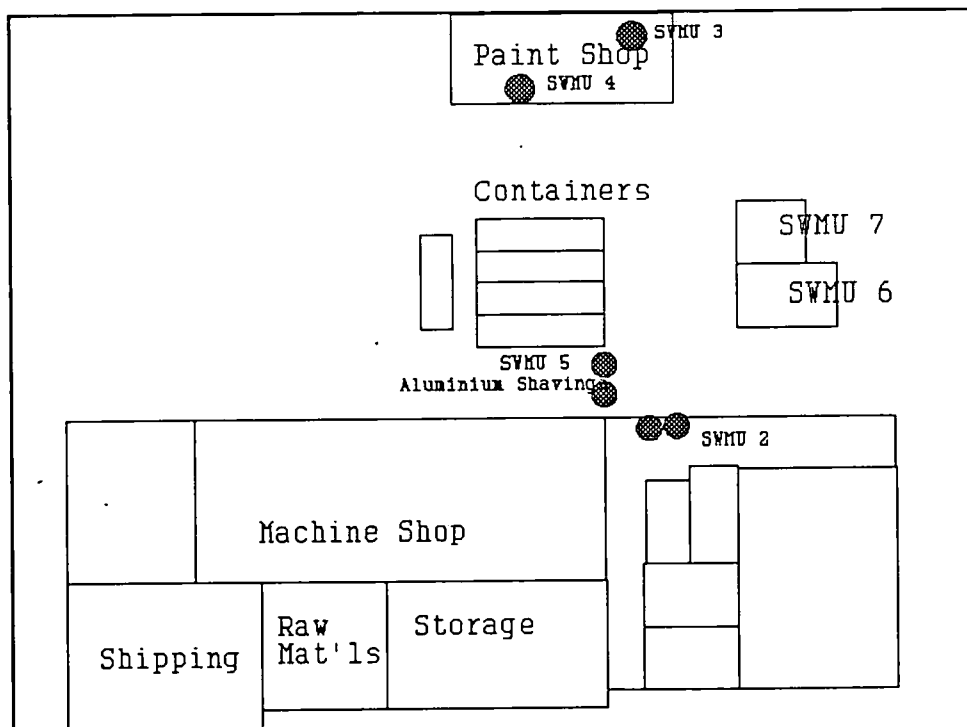


Figure 3a Existing SWMUs; Basement

SWMU #4- Paint Shop Satellite Storage Area 2

SWMU #4, located in the westernmost section of the Paint Shop, consists of one 55-gallon drum and is used to store paint related wastes. This SWMU has been in operation since the paint shop was built in 1988.

SWMU #5- Machine Shop Shavings Accumulation Area

SWMU #5, located outside and behind the primary building, is the storage area for the aluminum shavings from the machine shop. At the time of the site visit, seven 55-gallon drums of aluminum were being stored at this SWMU. In addition to the aluminum shavings, a small quantity of Trim Sol^R (a cutting and grinding fluid) waste is stored in these drums. The drums are stored on a wood platform covered by a sheet metal awning.

SWMU #6- Flammable and Solvent Waste Storage Area

SWMU #6 is located behind the primary building and is actually a freight container used in the trucking industry for maritime transportation. The container is used to store both raw materials and hazardous wastes. The wastes are kept in the northeast corner of the container. Wastes contained within SWMU #6 are compatible flammable and solvent wastes. This SWMU is considered a primary storage area and each satellite hazardous waste container brought into the SWMU is dated and stored for no more than 90 days before being taken by Laidlaw Environmental Services. No containment system exists within the container nor is there a physical barrier separating the raw products from the wastes. At the time of the site visit there were two five gallon plastic containers and a box partially full of paint type cans containing various wastes. Included in the wastes stored at this SWMU are isopropyl alcohol, Blaco Tron^R, and Oakite 33^R.

SWMU #7- Corrosive Waste Storage Area

SWMU #7 is located next to SWMU #6 and is also a freight container; however, it is slightly smaller. This SWMU also stores raw materials as well as corrosive hazardous wastes. At the time of the site visit, only one, 1/2 full, 55-gallon plastic drum of wastes was in the container. No containment system exists within the container nor is there a method of separating the raw products from the wastes.

4.2b SWMUs as of June 30, 1989

SWMU #1- Data and Publications Satellite SWMU

This former SWMU was located in the subassembly test repair section of the Engineering Department. The five-gallon plastic container was used to collect Dynasolve 170/Eccofoam. The use of

this satellite storage area was terminated early in 1990.

SWMU #2 and #3- Production Room Satellite Storage Areas

These SWMUs were located in the former production area in the western section of the primary building. Each consisted of no more than four five-gallon plastic containers and were used for the same purposes as SWMU #1 in the Existing SWMU section. The use of these SWMUs was discontinued early in 1990 when the Solder Wave Satellite Accumulation Room began accepting wastes.

SWMU #4- Potting and Conformal Coating Room Satellite Storage Area

Prior to the Paint Shop being built, the facility rented space from a local painting shop. There were times, however, when some small scale painting operations were needed to be performed at the facility. This SWMU, formerly located in the basement at the western side of the building was used as a satellite station for the paint wastes. This SWMU was eliminated after the paint shop was built.

SWMU #5- Vapor Degreasing Satellite Storage Area

Please see SWMU #2 in the Existing SWMU section of this report.

SWMU #6- Corrosive Wastes Storage Area

This SWMU was located behind the primary storage building across from the existing SWMU #7. Please see SWMU #7 for a description of the container and wastes stored within the SWMU. This SWMU ceased accepting wastes early in 1990.

SWMU #7- Flammable and Solvent Waste Storage Area

Please see SWMU #6 in the Existing SWMU section of this report for a complete description of this SWMU and the wastes contained within it.

SWMU #8- Oxidizer Waste Storage Area

Please see SWMU #7 in the Existing SWMU section of this report for a full description of this SWMU.

SWMU #9- Paint Shop Satellite Storage Area

Please see SWMU #3 in the Existing SWMU section of this report for a full description of this SWMU.

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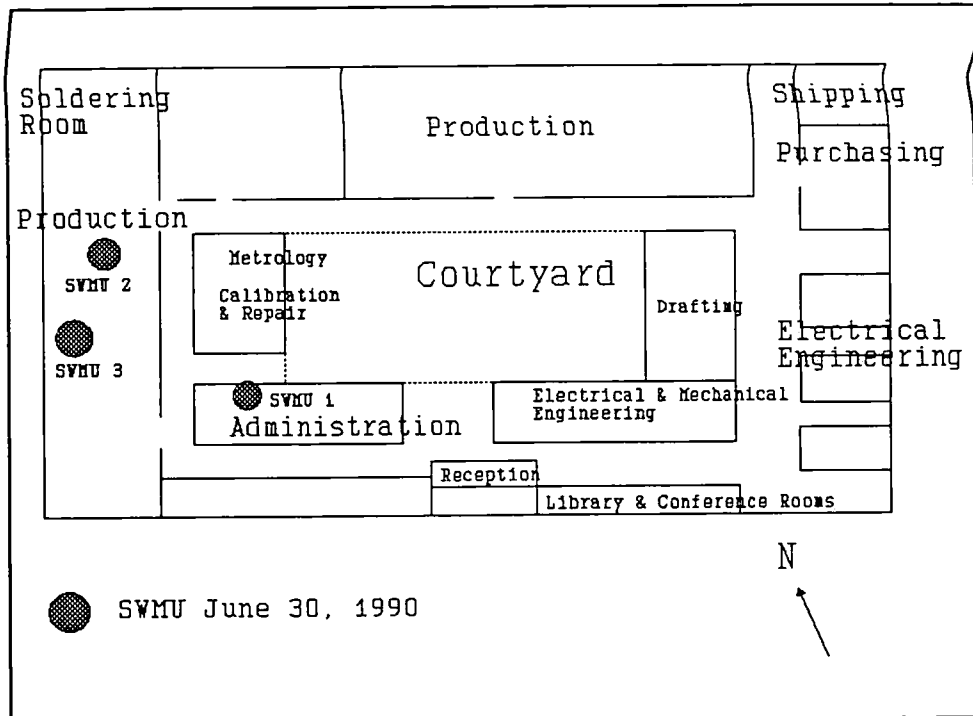


Figure 4 SWMUs June 30, 1989; 1st Floor

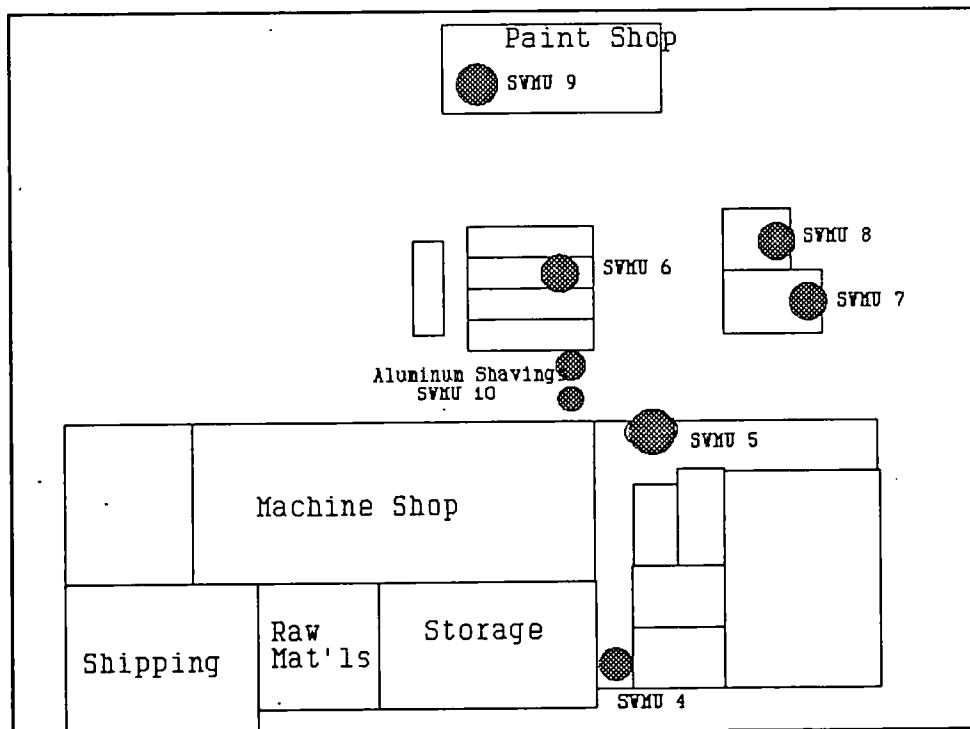


Figure 4a SWMUs June 30, 1989; Basement

SWMU #10- Machine Shop Shavings Accumulation Area

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Please see SWMU #5 in the Existing SWMU section of this report for a complete description of this SWMU.

5.0 EXPOSURE ASSESSMENT

5.1 Ground Water

The potential for ground water contamination from the processes at the Vega Precision Laboratories is considered moderate as none of the SWMUs on-site have containment systems. However, the facility does have spill containment equipment located throughout the facility.

5.2 Surface Water

The site is located less than 0.25 miles from Wolftrap Creek, which eventually flows into the Potomac River. Based on this fact and on the fact that containment systems do not exist for any of the SWMUs, the potential for surface water contamination is considered moderate.

5.3 Direct Contact

Based on the fact that all of the facility's SWMUs are either inside the two buildings or are locked (in the case of the existing SWMUs #6 and #7), the potential for direct contact with the hazardous wastes on-site is considered negligible.

5.4 Food Chain

Based on the information contained within this report and on the fact that there are no agricultural lands located within the vicinity of the site, the potential for food chain contamination is considered negligible.

5.5 Air Contact

The potential for atmospheric contamination does exist as the facility does handle a number of volatile materials, however the potential is considered low as the volatiles are usually contained within covered drums.

ORIGINAL
(Red)

REFERENCES

Knappenburger, C. University of Virginia State Climatology Office
Research Assistant

Kolb, William, Associate Engineer for Vega Precision Laboratories,
site visit August 17, 1990

Northern Virginia Planning District Commission, Annandale Virginia

United States Department of Agriculture, Fairfax County Soil
Survey, 1963

United States Geological Survey, 7.5' Topographic Quadrangles,
Vienna, Falls Church, Annandale, and Fairfax, Virginia

Virginia Water Control Board, Planning Bulletin 345, March 1988

ORIGINAL
(Red)

Appendix A
Photographic Log



VEGA Precision Labs

Vienna, VA.

August 17, 1990

SWMO #1 Solder-ware Room - storing

Production Dept. wastes; 2, 5-gallon
containers



VEGA Precision Labs

Vienna, VA.

August 17, 1990

Sumu #2 - Drum storing vapor degreasing
wastes



HAZARDOUS
WASTE

HANDLE WITH CARE

VEGA Precision Lags

Vienna, VA.

August 17, 1990

SWMU#3 located inside Paint Shop.
used to store was Hum: Sol (R)



VIGA



HAZARDOUS
WASTE

HANDLE WITH CARE

VEGETATION PRECISION LABS

Vienna, VA.

August 17, 1990

SWMU #4 located inside Paint Shop
used to store paint related
wastes



VEGA PRECISION LASS

VIENNA, VA.

August 17, 1990

~~DE~~ DEGRENER used in manufacturing
process

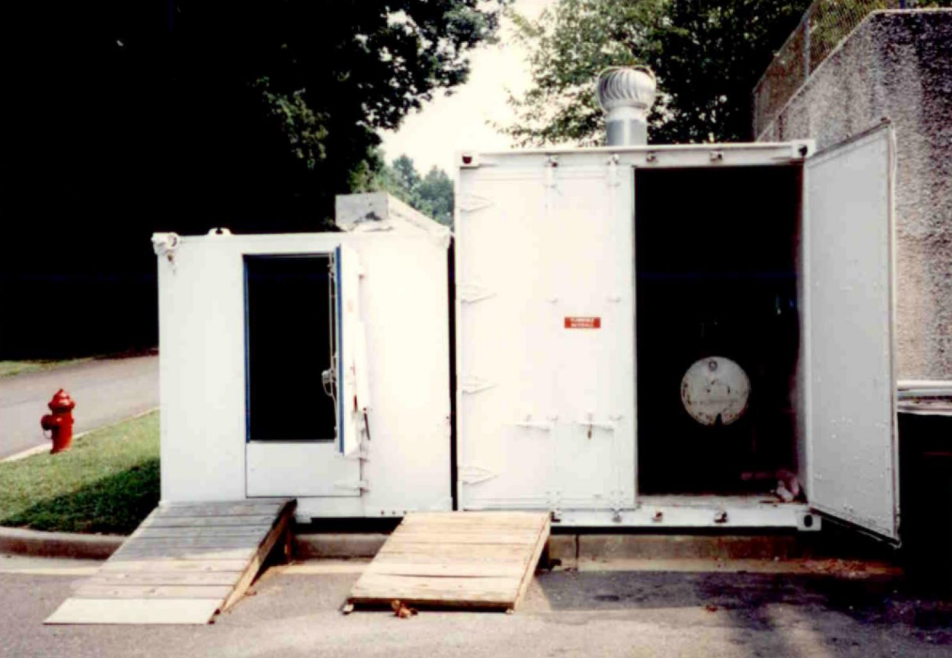


*EGRA Precision Lags

Vienna, Va.

August 17, 1990

Subm #5 ; outside behind primary bldg.
storage for machine shop cuttings
A1 & Trim Sol (K)



VEGA Precision Labs

Vienna, VA.

August 17, 1998

Swms 6, 7 - Primary Swms

for Flammables, Solvents,
Corrosives



VEGA PRECISION LABS

Vienna, VA.

August 17, 1990

SWMU #6 - inside container, showing
small area for hazardous wastes



VEGA Precision Labs

AUGUST 17, 1990

outside view of swms #6 &
#7 showing empty drums outside
to right



UEGA PRECISION LABS

AUGUST 17, 1990

Looking inside SWMD #7; blue
drum (plastic) stores hazard-
ous waste

ORIGINAL
(Red)

Appendix B
EPA Preliminary Assessment Forms

ORIGINAL

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT PART 1 - SITE INFORMATION AND ASSESSMENT				1. IDENTIFICATION	
				01 STATE	02 SITE NUMBER
				VA	469
II. SITE NAME AND LOCATION					
01 SITE NAME (Name, address, or street name of site)			02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER		
Vega Precision Laboratories			800 Follin Lane		
03 CITY			04 STATE	05 ZIP CODE	06 COUNTY
Vienna			VA	22180	Fairfax
09 COORDINATES			07 COUNTY 08 CONG DIST		
LATITUDE 38° 54' 05" N			LONGITUDE 77° 15' 30" W		
10 DIRECTIONS TO SITE (Starting from nearest interstate road) Interstate 95 to Interstate 495 toward Vienna. Take Interstate 66 west and get on Route 243 north. Take a right on route 123 and another on Follin Lane.					
III. RESPONSIBLE PARTIES					
01 OWNER (Name and address)			02 STREET (Business, mailing, residential)		
Compu Dyne, Inc.			Same as above		
03 CITY			04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
					(703) 938-6300
07 OPERATOR (Name and address)			08 STREET (Business, mailing, residential)		
09 CITY			10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
					()
13 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER: <input type="checkbox"/> G. UNKNOWN					
14 OWNER/OPERATOR NOTIFICATION ON FLS (Check all that apply) <input type="checkbox"/> A. RCRA 3001 DATE RECEIVED: <input type="checkbox"/> B. UNCONTROLLED WASTE SITE (EPCRA 102(c)) DATE RECEIVED: <input type="checkbox"/> C. NONE					
IV. CHARACTERIZATION OF POTENTIAL HAZARD					
01 ON SITE INSPECTION <input type="checkbox"/> YES DATE 08, 17, 90 <input type="checkbox"/> NO			BY (Check all that apply) <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input checked="" type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: CONTRACTOR NAME(S):		
02 SITE STATUS (Check one) <input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN			03 YEARS OF OPERATION 1973 present <input type="checkbox"/> UNKNOWN BEGINNING YEAR ENDING YEAR		
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED Hazardous wastes accumulated on-site include materials containing phosphoric acid, 2-Butoxyethanol, methyl ethyl ketone, toluene, trichlorotrifluoroethane, and other halogenated hydrocarbons.					
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION None expected					
V. PRIORITY ASSESSMENT					
01 PRIORITY FOR INSPECTION (Check one, if more than one is checked, complete Part 2 - Initial Assessment and Part 3 - In-Depth Assessment and Remediation) <input type="checkbox"/> A. HIGH <input type="checkbox"/> B. MEDIUM <input type="checkbox"/> C. LOW <input checked="" type="checkbox"/> D. NONE					
VI. INFORMATION AVAILABLE FROM					
01 CONTACT			02 OF (Agency or person)		03 TELEPHONE NUMBER
Paul Kohler			Virginia Dept. of Waste Management		804 225-2860
04 PERSON RESPONSIBLE FOR ASSESSMENT			05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER
Russ Dudley			VDWM	Superfund	(804) 225-2858
					08 DATE 09, 07, 90 MONTH DAY YEAR



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION
01 STATE VA 02 SITE NUMBER 469 (Red)

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply) <input checked="" type="checkbox"/> A. SOLID <input type="checkbox"/> B. POWDER, FINES <input type="checkbox"/> C. SLUDGE <input type="checkbox"/> D. OTHER _____ (Specify) <input type="checkbox"/> E. SLURRY <input checked="" type="checkbox"/> F. LIQUID <input type="checkbox"/> G. GAS	02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent) TONS _____ CUBIC YARDS _____ NO. OF DRUMS <12	03 WASTE CHARACTERISTICS (Check all that apply) <input type="checkbox"/> A. TOXIC <input type="checkbox"/> B. CORROSIVE <input type="checkbox"/> C. RADIOACTIVE <input type="checkbox"/> D. PERSISTENT <input type="checkbox"/> E. SOLUBLE <input type="checkbox"/> F. INFECTIOUS <input type="checkbox"/> G. FLAMMABLE <input type="checkbox"/> H. IGNITABLE <input type="checkbox"/> I. HIGHLY VOLATILE <input type="checkbox"/> J. EXPLOSIVE <input type="checkbox"/> K. REACTIVE <input type="checkbox"/> L. INCOMPATIBLE <input type="checkbox"/> M. NOT APPLICABLE
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III. WASTE TYPE See Section IV

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

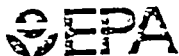
01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	Trichlorotrifluoroethane	76-13-1	Drums	90	%
SOL	Ethyl Alcohol	64-17-5	Drums	9	%
SOL	Methyl Alcohol	67-56-1	Drums	1	%
SOL	2-methoxyethanol	109-86-4	Drums	60-80	%
SOL	Potassium Hydroxide	1310-58-3	Drums	2-4	%
SOL	Xylene	1330-20-7	Drums	100	%
SOL	Phosphoric Acid	7664-38-2	Drums	65	%
SOL	2-Butoxyethanol	111-76-2	Drums	18	%
SOL	Methyl Ethyl Ketone	78-93-3	Drums	15	%
SOL	Toluene	108-88-3	Drums	50	%

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state (res. sample analysis, reports)

Site Visit
VDWM Files



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION ORIGINAL
01 STATE 02 SITE NUMBER (Red)
VA 469

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
There is a moderate potential for the local groundwater to be affected if a spill occurs. Although there is spill cleanup equipment available on-site, none of the SWMUs have containment systems.

01 ☐ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

See II A.

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
There is a low potential for some atmospheric contamination to occur as volatiles are handled at the facility.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Fire/explosive conditions do exist on-site as the facility utilizes flammable chemicals; however, the potential is considered low because the flammable and incompatible chemicals are stored separately.

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Potential is considered negligible as the SWMUs are kept inside or are locked.

01 ☐ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: _____ (Acres)
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

See II A.

01 ☐ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Not expected as the surrounding area is served by public water.

01 ☐ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None observed or expected.

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

See II E.

ORIGINAL
(Red)



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

1. IDENTIFICATION

01 STATE 02 SITE NUMBER
VA 469

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed or expected.

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (INCLUDE NUMBER 01 OF APPENDIX)

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed or expected.

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None expected.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(SUCH AS FLOODING, SLURRING, OR OTHERS)
03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

None observed, however, no containment system exists for any of the SWMUs.

01 ☐ N. DAMAGE TO OFF-SITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed or expected.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

See II A.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL OR ALLEGED HAZARDS

N/A

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

N/A

V. SOURCES OF INFORMATION (Cite specific references, e.g., C-1, C-2, etc., and include names, positions, etc.)

Site Visit

FIELD TRIP SUMMARY REPORT

This summary should be prepared in conjunction with the Preliminary Assessment Form 2070-12. ORIGINAL
(Red)

EPA Case Number VA-469 Site Name Vega Precision Laboratories

Site Description

The Vega Precision Laboratories (VPL) facility consists of one 120,000 ft² primary building and a 1800 ft² auxiliary building (figures 2 & 2a). The primary building encompasses the bulk of the facility's operations including administration, engineering, production, and quality assurance. The auxiliary building serves as the facility's paint shop.

Area of site (acres)

2

Hazardous portion, if not entire site

Description of processes/operations which took place at the site

Vega Precision Laboratories manufactures "transponders" for the defense industry. Transponders are electronic devices which utilize circuit boards in navigational and guidance systems of airplanes and other flying weapons systems. VPL manufactures these transponders for the federal government only and has no commercial contracts.

Waste handling/disposal practices

VPL currently operates three primary SWMUs and four satellite collection SWMUs. Hazardous wastes are dated on the first day of accumulation in the primary SWMUs while they are not dated while at the satellite stations. Laidlaw Environmental Services picks up the facility's hazardous wastes.

Site topography and runoff drainage pathways

The site is situated at approximately 450 feet above mean sea level near the top of a northwesterly sloping ridge.

Surface or subsurface drainage areas (leachate) noted?

None

Odors/stains noted?

solvents in SWMU #1

Stressed vegetation noted?
None

Location and description of streams or receiving waters adjacent to site. Include flow direction and observations. Note location on attached map.

Wolftrap Creek is located less than 0.25 miles north of the facility. Wolftrap Creek flows in a northwesterly direction for approximately 3.5 stream miles until confluencing with Difficult Run. Difficult Run flows for approximately 3.5 stream miles until finally spilling into the Potomac River at Great Falls National Park.

Monitoring wells on site or in vicinity. Note location on attached map.

Population within 1/4 mile of site:

- ☐ 0-10
☐ 10-100
☒ greater than 100

Population within 1 mile of site:

- ☐ 0-10
☐ 10-100
☐ 100-1000
☒ greater than 1000

ORIGINAL
(Red)

Surrounding land use (woodlot, agricultural, recreation, industrial, etc.)

NORTH

commercial, residential, recreational

EAST

low density residential, commercial

SOUTH

high & low density residential, commercial

WEST

high & low density residential, commercial

Municipal water supply within 3-mile radius (note use of surface water and/or wells)

None

Reference:

Domestic wells. Approximate number within 1/4 mile:

List nearest downgradient wells below and show locations on attached map.

Owner/Resident

Address

Phone

Groundwater flow direction, if known

Unknown; typically with topography

Description of odor/taste problems

None

State inspection activity (including permits held)

RCRA Small Quantity Generator

State/Federal/Private remedial activities

None

Additional comments.—Further description of site

ORIGINAL
(Red)

SITE CONTACTS

Name and Title	Affiliation	Phone
Bill Colb	Associate Engineer	(703) 938-6300

INSPECTION INFORMATION

Name and title of inspector(s) Russ Dudley & Tracy Young, Environmental Prog. Analysts

Agency VA. Dept. of Waste Mgmt.

Phone number (804) 225-2858

Date August 17, 1990

Time on site 10:00 - 1200 AM

Weather conditions:

Warm (upper 80s) and sunny

ATTACHMENTS

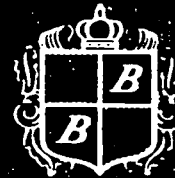
- o Topographic map identifying site location. Include name of quadrangle map.
- o Site sketch map showing location of monitoring wells, domestic wells, municipal water supplies, and areas of concern (lagoons, leachate seeps, drums, etc.)
- o Any available sampling results or state monitoring data with map showing sample locations.

ORIGINAL
(Red)

Appendix C
Material Safety Data Sheets

Material Safety Data Sheet

Baron Blakeslee, Inc., - 2001 N. Janice Ave., - Melrose Park, IL 60160 (312)450-3900



DATE: October, 1987
CHEMICAL NAME AND SYNONYMS:
Blend of Trichlorotrifluoroethane
and Ethyl Alcohol containing a
small amount of methyl alcohol
CHEMICAL FAMILY:

Halogenated hydrocarbons/Alcohols

DOT SHIPPING NAME: Not regulated

EDITION: 2nd (M002610)
TRADE NAME AND SYNONYMS:
Blaco-Tron TE Plus

FORMULA: $C_2Cl_3F_3/C_2H_5OH/$
 CH_3OH

DOT HAZARD CLASS: N/A

SECTION 1 - PHYSICAL DATA

BOILING POINT @ 760 MM Hg: 113°F	VAPOR DENSITY(AIR=1): 5.9	SPEC. GRAV. 1.43 (liquid)	pH OF SOLUTIONS: Neutral
FREEZING/MELTING POINT: Below -35°C	SOLUBILITY (WEIGHT % IN WATER): Approx. 0.028	BULK DENSITY: Approx. 11.9 lbs./gal.	VOLUME % VOLATILE: 100
VAPOR PRESSURE: 220 mm Hg at 70 deg. F	EVAPORATION RATE: (Acetone = 1) (time to evaporate): 1.8	HEAT OF SOLUTION: Not available	

APPEARANCE AND ODOR: Colorless liquid with ethereal and faint sweetis odor.

SECTION 2 - HAZARDOUS INGREDIENTS

	Approx. %	HAZARD DATA
Trichlorotrifluoroethane	90.0	See Section 5
Ethyl alcohol, denatured grade (SDA-30)	9.0	See Section 5
Methyl alcohol (minor ingredient SDA-30, above)	1.0	See Section 5

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT F (METHOD USED) Non-Flammable (Closed Cup)	FLAMMABLE LIMITS IN AIR (% BY VOLUME) Not Available	EXTINGUISH. MEDIA: Carbon Dioxide; Dry Chemical;Water Spray
---	---	--

SPECIAL FIRE FIGHTING PROCEDURES:

Fire fighters should wear NIOSH pressure demand self-contained breathin apparatus for possible exposure to hydrochloric and hydrofluoric acid and phosgene. Use water spray to keep containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Will decompose at temperatures above 250°C. Decomposition products ca include hydrochloric and hydrofluoric acid and phosgene.

24-HOUR EMERGENCY ASSISTANCE: 201/455-2000

IMPORTANT NOTICE!!

BLACO-TRON TE PLUS
Issued 6-1-89

New OSHA Permissible Exposure Limits (PEL's) and/or Short Term Exposure Limits (STEL's)

Effective March 1, 1989, the OSHA PEL and/or STEL for one or more of the components of Blaco-Tron TE Plus were revised. The following chart lists the current OSHA and ACGIH Exposure Limits for the component(s) of Blaco-Tron TE Plus and where applicable a revised calculated PEL for the product. You should utilize this exposure data in your review of the product and disregard the OSHA values listed in the attached PSDS sheet.

<u>Component</u>	<u>WT%</u>	<u>OSHA Values</u>		<u>ACGIH Values</u>	
		<u>8-Hour PEL</u>	<u>15 Min STEL</u>	<u>8-Hour TLV</u>	<u>15 Min STEL</u>
1. 112-Trichloro 122 Trifluoroethane CAS No. 76-13-1	90	1000 ppm	1250 ppm	1000 ppm	1250 ppm
2. Ethyl Alcohol CAS No. 64-17-5	9	1000 ppm	None Listed	1000 ppm	None Listed
3. Methyl Alcohol CAS No. 67-56-1	1	200 ppm	250 ppm	200 ppm	250 ppm

Based on the ACGIH methodology for the calculation of a TLV value for a mixture (Appendix C, ACGIH TLV Handbook, 1988) the PEL/TLV value for Blaco-Tron TE Plus is:

A. OSHA 8-Hour PEL - 850 ppm

B. ACGIH 8-Hour TLV - 850 ppm

ORIGINAL
(Red)

ADDITIONAL INFORMATION

EXPOSURE TO TRICHLOROTRIFLUOROETHANE:

Animal studies in various species have observed cardiac arrhythmia at the following concentrations:

Monkey - 25,000 - 50,000 ppm
Mouse - 100,000 ppm

Myocardial depression was observed in the dog at 50,000 ppm.

Subacute data: Rats exposed at 2,520 ppm, 7 hours/day, 5 days/wk, 30 days - no apparent effects.
At 5,000 ppm and same time exposure, mild liver effects, prevention of weight gain.

B. Ethyl Alcohol - CAS NO. 64-17-5

PERMISSIBLE EXPOSURE LIMITS (TLV)

Current Federal OSHA permissible exposure limit (29 CFR 1910.1000) is 1000 ppm 8-hour TWA).

ACGIH has adopted a permissible exposure limit of 1000 ppm (8-hour TLV).

ROUTES/EFFECTS OF OVEREXPOSURE:

INGESTION: Large doses can cause alcohol poisoning. A central nervous system depressant.

INHALATION: Exposure to concentrations of over 1,000 ppm can cause headache, irritation of nose and throat, and if long continued, drowsiness and lassitude, loss of appetite and inability to concentrate.

EYES: Irritant to eyes in concentrations greater than 1,000 ppm.

C. METHYL ALCOHOL - CAS NO. 67-56-1

PERMISSIBLE EXPOSURE LIMITS -

Current Federal OSHA permissible exposure limit (20 CFR 1910.1000) is 200 ppm (8-hour TWA)

ACGIH has adopted a permissible exposure limit of 200 ppm (8-hour TLV).

SECTION 4 - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMITS (TLV): See Section 5

TOXICITY DATA: Trichlorotrifluoroethane

LC LO INHALATION: Human: 4,500 ppm Central
Nervous System Effects

SKIN - RABBIT: 500 mg-open

LD₅₀ RAT: 43 gm/kg

CLASSIFICATION (POISON,
IRRITANT, ETC.)

INHALATION: Low Toxic

SKIN/EYE: Mild irritant

INGESTION: Mildly Toxic

HUMAN EXPOSURE INFORMATION/DATA:

None of the components of Blaco-Tron TE Plus are listed as a carcinogen by OSHA, IARC, or NTP. All of the components are listed in the TSCA Inventory.

SECTION 5 - EFFECTS OF OVEREXPOSURE

This section covers effects of overexposure for inhalation, eye/skin contact, ingestion and other types of overexposure information in the order of the most hazardous and the most likely route of overexposure.

A. Trichlorotrifluoroethane, CAS NO. 76-13-1

PERMISSIBLE EXPOSURE LIMITS (TLV)

Current Federal OSHA permissible exposure limit (29 CFR 1910.1000) is 1,000 ppm (8-hour TWA)

ACGIH has adopted a permissible exposure limit of 1,000 ppm (8-hour TLV)

ROUTES/EFFECTS OF EXPOSURE:

INHALATION: At low level of concentration (human: 2,500 ppm fluorocarbon component, 0.5-1.0 hour exposure) headache, dizziness, nausea, loss of concentration have been experienced. With high exposure levels: intoxication, cardiac effects, and CNS depression (loss of concentration or even death) may occur. Vapors can displace air, resulting in an asphyxiation hazard.

EYE OR SKIN CONTACT: Irritant to skin and eyes: excessive contact may cause defatting.

INGESTION: Similar symptoms as for inhalation. In large doses, respiratory failure can occur.

EFFECTS OF OVEREXPOSURE

ACUTE: Primarily a central nervous system depressant. Inhalation can cause irritation of the respiratory tract, dizziness, nausea, headache, loss of coordination and equilibrium, unconsciousness and even death in confined or poorly ventilated area. Liquid splashed in the eye can result in discomfort, pain and irritation. Prolonged or repeated contact with liquid on the skin can cause irritation and dermatitis. The problem may be accentuated by liquid becoming trapped against the skin by contaminated clothing and shoes. Skin absorption can occur.

SECTION 6 - REACTIVITY DATA

STABILITY: Stable
CONDITIONS TO AVOID: Will decompose at temperatures above 250°C. Avoid sparks, hot spots, welding, flames and cigarettes.
HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: None
INCOMPATIBILITY (MATERIALS TO AVOID): Strong acids and alkalis reactive metals e.g. powdered aluminum, magnesium, zinc, molten aluminum, barium and lithium shavings. Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Hydrochloric and hydrofluoric acids, phosgene.

SECTION 7 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED: Immediately evacuate the area and provide maximum ventilation. Unprotected personnel should move upwind of spill. Only personnel equipped with proper respiratory and skin/eye protection should be permitted in area. Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover or absorb spilled material on sawdust or vermiculite and sweep into closed containers for disposal. After all visible traces have been removed, thoroughly wet vacuum the area. DO NOT flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal. (See Below.)

WASTE DISPOSAL METHOD: Contaminated sawdust, vermiculite or porous surface must be disposed of in a permitted hazardous waste management facility. Recovered liquids may be reprocessed or incinerated or must be treated in a permitted hazardous waste management facility. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. It is your duty to dispose of the chemical materials and/or their containers in accordance with the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act as well as any other relevant federal, state or local laws/regulations regarding disposal.

SECTION 8 - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: None required for adequately vented work situations. Use NIOSH approved self-contained or supplied-air respirators for emergencies and in situations where air may be displaced by vapors.

VENTILATION (TYPE): Local exhaust: At filling zones and where leakage is probable. Mechanical (General): Adequate for storage areas.

EYE PROTECTION: Splashproof Goggles

GLOVES: Protective gloves and full protective clothing if there is prolonged or repeated contact of liquid with skin.

OTHER PROTECTIVE EQUIPMENT: Safety shower and eye-wash fountain in immediate area. Personal protective clothing and use of equipment must be in accordance with 29 CFR 1910.133 and 29 CFR 1910.132.

ROUTES/EFFECTS OF OVEREXPOSURE

ORIGINAL

INGESTION: The main toxic effect is exerted on the nervous system particularly the optic nerves and possibly the retina.

Severe exposures may cause dizziness, unconsciousness, sigh respiration, cardiac depression and eventually death. Where exposure is less severe, the first symptoms may be blurring of vision, photophobia, and conjunctivitis followed by the development of definite eye lesions. There may be headache, gastrointestinal disturbances, dizziness and a feeling of intoxication. The vision symptoms may clear temporarily, only to recur later and progress to actual blindness.

Death from ingestion of less than 30 ml. has been reported. Usual fatal dose is 100-250 ml.

INHALATION: Inhalation of fumes can lead to similar symptoms to those listed for ingestion.

EYE/SKIN: Skin may become dry and cracked due to solvent action of methyl alcohol. Mild irritant to eyes.

Based on the ACGIH methodology for the calculation of a TLV value for a mixture (Appendix C, ACGIH TLV Handbook, 1986), the TLV value for Blaco-Tron TE Plus is as follows:

- A) Using OSHA TWA values - 850 ppm
- B) Using ACGIH TLV values - 850 ppm

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove patient to fresh air. Give mouth to mouth resuscitation if breathing has stopped. Give oxygen as necessary if a qualified operator is available. DO NOT give adrenalin (epinephrine). Call physician.

INGESTION: If conscious, induce vomiting immediately by giving 2 to 3 glasses of water and touching finger to back of throat. Call a physician. NEVER give anything by mouth to an unconscious person. Take patient immediately to hospital or physician.

EYE CONTACT: Flush with large amounts of water for at least 15 minutes, lifting eyelids occasionally. If eye symptoms persist, consult physician.

SKIN CONTACT: Wash promptly with soap and water for at least 15 minutes while removing contaminated clothing and shoes. If irritation occurs, see a physician. Thoroughly clean contaminated clothing and shoes before reuse or discard.

SECTION 9 - SPECIAL PRECAUTIONS

ORIGINAL

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORING:

(Red)

- * DO NOT use in poorly ventilated or confined spaces.
- * Trichlorotrifluoroethane vapors are heavier than air and will collect in low areas.
- * Keep container closed when not in use.
- * DO NOT store in open, unlabeled or mislabeled containers.
- * This material or its vapors when in contact with flames, hot glowing surfaces or electric arcs can decompose to form hydrogen chloride gas, hydrofluoric acid and traces of phosgene.
- * AVOID CONTAMINATION OF WATER SUPPLIES: Handling, storage and use procedures must be carefully monitored to avoid spills or leaks. An spill or leak has the potential to cause underground water contamination which may, if sufficiently severe, render a drinking water source unfit for human consumption. Contamination that does occur cannot be easily corrected.

OTHER PRECAUTIONS:

- * AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. High vapor concentrations can cause dizziness, unconsciousness or death.
- * USE ONLY WITH ADEQUATE VENTILATION. Ventilation must be sufficient to limit employee exposure to product below OSHA permissible exposure limits (8-hour TWA).
- * AVOID CONTACT WITH EYES. Will cause irritation and pain.
- * AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. May cause irritation or dermatitis.
- * DO NOT TAKE INTERNALLY. Swallowing may cause injury or death.
- * DO NOT EAT, DRINK OR SMOKE IN WORK AREAS.
- * NEVER enter a pit or tank without observing safety procedures:
- * Never alone, always with a life line, and always with positive supply of fresh air.
- * Employ respiratory protection when exposure to vapors is possible.

REFERENCES:

1. NIOSH Registry of Toxic Effects of Chemical Substances, 1978.
2. Industrial Hygiene and Toxicology, Volume 11, Second Edition, F.A. Patty, 1986.
3. Dangerous Properties of Industrial Materials, Sixth Edition, N.I. Sax, 1984.
4. Federal Register, 45FR Hazardous Waste Management Systems Part III Identification and Listing of Hazardous Wastes, Page 33084, May 19 1980.
5. EPA Science Advisory Board, Subcommittee on Airborne Carcinogens September, 1980.

THIS MATERIAL SAFETY DATA SHEET IS OFFERED SOLELY FOR YOUR INFORMATION, CONSIDERATION AND INVESTIGATION.

BARON-BLAKESLEE PROVIDES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, AND ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE DATA CONTAINED HEREIN.

ALLIED-SIGNAL, INC.

GENESOLV/BARON-BLAKESLEE

ENVIRONMENTAL DATA SHEET

ORIGINAL
Date:

SUPPLEMENT TO PSDS: BLACO TRON® TE PLUS

CURRENT ISSUE DATE: October 1987 PSDS# M002610 (2nd ED)

SARA - TITLE III (40 CFR 300)

1. THIS PRODUCT CONTAINS THE FOLLOWING EXTREMELY HAZARDOUS SUBSTANCE (S) (SELECTIONS 302 AND 304):

<u>COMPONENT</u>	<u>TPQ (LBS)</u>	<u>RQ (LBS)</u>
NONE		

2. THIS PRODUCT CONTAINS THE FOLLOWING CERCLA HAZARDOUS SUBSTANCE (S) (SECTIONS 302 AND 304):

<u>COMPONENT</u>	<u>RQ (LBS)</u>
METHANOL (METHYL ALCOHOL) CAS 67-56-1	5000

NOTE: THE FOLLOWING INFORMATION PROVIDED IN SECTION 1 AND 2 IS REQUIRED FOR EMERGENCY RESPONSE REPORTING.

3. THIS PRODUCT HAS THE FOLLOWING HAZARDS (SECTION 311 AND 312):

	<u>YES</u>	<u>NO</u>
IMMEDIATE	<u>X</u>	—
DELAYED	<u>X</u>	—
FIRE	—	<u>X</u>
PRESSURE	—	<u>X</u>
REACTIVE	—	<u>X</u>

4. THESE PRODUCTS CONTAIN THE FOLLOWING TOXIC CHEMICALS (SECTION 313):

	<u>WT %</u>
112 TRICHLORO 122 TRIFLUOROETHANE CAS 76-13-1	90
METHANOL (METHYL ALCOHOL) CAS 67-56-1	1

FOR ADDITIONAL INFORMATION ON THE ABOVE CHEMICALS, SEE SECTION 5 OF THE MATERIAL SAFETY DATA SHEET.

DATE: 11-7-88

ORIGINAL
(Red)

Preparation Date August 16, 1985

Section I
Manufacturer's Name
HumiSeal Division, Columbia Chase Corp.
Address (Number, Street, City, State, and ZIP Code)
26-60 Brooklyn - Queens Expwy.
Woodside, New York 11377

Emergency Telephone Number
(718) 932-0800

Chemical Name
and Synonyms

Trade Name
and Synonyms

STRIPPER 1071

Chemical
Family

SOLVENT

Formula

Section II - Hazardous Ingredients

Ingredients	CAS Number	%	TLV (Units)
2- METHOXYETHANOL	109-86-4	60-80	25
POTASSIUM HYDROXIDE	1310-58-3	2-4	N/A.
ETHYL SILICATE	26352-16-9	0.25	N/A

Hazardous Mixtures of Other Liquids, Solids or Gases

	CAS Number	%	TLV (Units)

Section III - Physical Data

Boiling Point (° F)	256	Specific Gravity (H ₂ O=1)	.97
Vapor Pressure (mm Hg.)	6.2	Percent Volatile by Volume (%)	90
Vapor Density (AIR=1)	1.0	Evaporation Rate (BuAc = 1)	0.5

Solubility in Water

Complete

Appearance and Odor

Blue/green to yellowish brown fluid with slight pleasant odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) °F, Closed cup	135	Flammable Limits	LeI 2.28	UeI 24.5
---	-----	------------------	-------------	-------------

Extinguishing Media

Carbon Dioxide, foam, sand.

Special Fire Fighting Procedures

Use self-contained breathing apparatus. Avoid spreading burning liquid with water used for cleaning purpose.

Unusual Fire and Explosion Hazards

Vapors are heavier than air and may travel to ignition source and flash back.

Section V - Health Hazard Data

Threshold Limit Value

Methoxyethanol 25 ppm/oxygenated solvent TLV above the saturation concentration.

Effects of Overexposure

SKIN: May result in dermatitis, eye irritant, respiratory tract irritation, narcosis in

ORIGINAL
Mark

high concentration, faintness.

Emergency First Aid Procedures

Skin Contact: Flush with water;

Eye Contact: Flush with water and boric acid:

Antidote: Dilute vinegar. Prolonged exposure to vapors: Breathe fresh air or oxygen.

Section VI - Reactivity Data

Stability	Unstable	Conditions
	Stable	Flame, ignition sources
	X	

Incompatibility (Materials to Avoid)

Strong oxidizing agents

Hazardous Decomposition Products

Carbon monoxide or carbon dioxide

Hazardous Polymerization	May Occur	Conditions to Avoid
	Will Not Occur	
	X	

Section VII - Spill or Leak Procedures

Steps to be Taken in Case Material is Released or Spilled

Flush with water

Waste Disposal Method Dilute with at least 10 times the volume of water. Allow precipitate that will form to settle. Dispose of clear liquid in drains, precipitate with other solids. Dispose in accordance with applicable local regulations:

Section VIII - Special Protection Information

Respiratory Protection (Specify Type)

NIOSH/MSHA Organic vapor type is advised in absence of proper environmental control.

Ventilation	Local Exhaust Yes, face velocity greater than 60 F.P.M.	Special Use only with adequate ventilation (outdoors)
	Mechanical (General) Explosion proof to keep vapors under TLV	Other
		NO SMOKING OR OPEN LIGHTS

Protective Gloves

Yes - Impervious gloves

Eye Protection

Yes - Goggles or faceshield

Other Protective Equipment

Chemical resistant apron, eyewash station and safety showers should be available.

Section IX - Special Precautions

Precautions to be Taken in Handling and Storing

Store away from heat, spark or open flame. Ground containers when pouring and limit free fall to a few inches to prevent static sparks. Avoid spontaneous combustion of contaminated rag and other easily ignitable organic accumulation (such as spray booth residues). By immediate immersion in water. Avoid prolonged skin contact and breathing of vapors. Emptied containers may retain hazardous properties. Do not cut, puncture, or weld on or near container.

100 TLV

Effects of Overexposure

Chronic Effects: Cardiac abnormality.

Emergency First Aid Procedures

~~Skin Contact: Remove saturated clothing and wash skin with soap and water.~~

Eyes: Irrigate with water. Inhalation: Remove to fresh air.

Ingestion: Consult physician promptly.


Section VI - Reactivity Data

Stability	Unstable		Conditions
	Stable	X	NOT APPLICABLE

Compatibility (Materials to Avoid)

May react with strong oxidizing agents.

Hazardous Decomposition Products Carbon Dioxide, Carbon monoxide, possibly oxides of nitrogen and possibly acrolein, upon thermal decomposition.

 Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	NOT APPLICABLE

Section VII - Spill or Leak Procedures

Steps to be Taken in Case Material is Released or Spilled Remove sources of ignition. Provide ventilation and/or respiratory protection. Absorb spills with inert material (sand, vermiculite, etc.) Large spills maybe scooped up with non-sparking tools and transfer to container for proper disposal.

Waste Disposal Method	Place in closed containers. Incinerate (first open closed containers) or use secure landfill in accordance with local, state and federal regulations.
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Section VIII - Special Protection Information

Respiratory Protection (Specify Type)

NIOSH/MSHA Organic vapor type is advised in absence of proper enviromental control

Ventilation	Local Exhaust Yes, face velocity greater than 60 F.P.M.	Special Use only with adequate ventilation (outdoors)
	Mechanical (General) Explosion proof to keep vapors under TLV.	Other No smoking or open lights

Protective Gloves

Yes - Impervious gloves

Eye Protection	
----------------	--

Yes - goggles or faceshield

Other Protective Equipment

Chemical resistant apron, eyewash station and safety showers should be available.

Section IX - Special Precautions

Precautions to be Taken in Handling and Storing

Store away from heat, spark or open flame. Ground containers when pouring and limit free fall to a few inches to prevent static sparks. Avoid spontaneous combustion of contaminated material and other easily ignitable organic accumulation (such as spray booth residues) by

Other Precautions: immediate immersion in water. Avoid prolonged skin contact and breathing of vapors, emptied containers may retain hazardous properties. Do not cut, puncture or weld on or near container.



SOL

**material safety
data sheet**

**master chemical
corporation**

THE COOLANT management company®

MATERIAL AND MANUFACTURER IDENTIFICATION

ORIGINAL
(Red)

Product name	TRIM® SOL
Material type	Water-miscible cutting and grinding fluid concentrate
Classification/Synonym(s)	Chemical emulsion/Soluble oil
Product use	Coolant and lubricant in metal removal processes
Manufacturer address	MASTER CHEMICAL CORPORATION 501 West Boundary PO Box 220 Perrysburg, OH 43551
Emergency telephone number	(419) 874-7902
Telex number	510-600-1600 Answerback: MASTER CHEM UD
Easylink number	62897774

2. REGULATORY INFORMATION

Department of Transportation	DOT Hazard Class: None TRIM® SOL is not classified as a hazardous material by DOT.
Resource Conservation and Recovery Act	EPA Hazardous Waste Number(s): None TRIM® SOL is not classified as a hazardous waste by EPA.
Toxic Substances Control Act	All TRIM® SOL ingredients are listed on the TSCA Inventory of Chemical Substances.

3. INGREDIENT INFORMATION

The exact chemical identities and percentages of the raw materials used in TRIM® SOL are trade secrets. This information is being withheld as provided for in the Occupational Safety and Health Administration's Hazard Communication Rule (29 CFR 1910.1200).

PHYSICAL DATA

Boiling point (at 760 mm Hg) 217°F
Vapor pressure (psi) <1
Vapor density (Air=1) not determined
Solubility in water 100%
Appearance Dark green viscous
liquid with mild, pleasant odor.

Specific gravity (H₂O = 1) 0.99
Percent volatiles
by volume 18.48%
Evaporation rate 1
(butyl acetate = 1)
pH of concentrate not applicable
pH of 5% solution 9.4

ORIGINAL

(Ref)

5. FIRE AND EXPLOSION HAZARD DATA

Flash point (test method) 305°F (COC) None (TCC)
Flammable limits Not determined
Extinguishing media As appropriate for the surrounding fire
Special fire fighting
procedures None
Unusual fire and
explosion hazards None

6. HEALTH HAZARD DATA

Threshold limit value None established by ACGIH or OSHA
Acute effects
of overexposure Eye contact Transient irritation
Skin contact Possible defatting, nonirritant, nonsensitizer
Inhalation Nontoxic
Ingestion Nontoxic
Skin absorption Nontoxic
Chronic effects
of overexposure None currently known

The National Toxicology Program Annual Report on Carcinogens does not list TRIM® SOL or any of its ingredients.
The International Agency for Research on Cancer Monographs have not found TRIM® SOL or any of its ingredients to be potential carcinogens.
The Occupational Safety and Health Administration does not regulate TRIM® SOL or any of its ingredients as potential carcinogens.

Signs and symptoms
of exposure None
Medical conditions
generally aggravated
by exposure None known
Emergency and first aid
procedures Eyes Flush immediately with cool, clean water
for at least 15 minutes.
Skin Wash with mild soap and warm water.
Inhalation Remove to fresh air.
Ingestion If large quantities are ingested, pump stomach.

REACTIVITY DATA

ORIGINAL
(Red)

Stability
Conditions to avoid
Incompatibility
(materials to avoid)
Hazardous combustion or
decomposition products
Hazardous polymerization
Conditions to avoid

☒ Stable ☐ Unstable
None
Strong oxidizers, acids and alkalis

Thermal decomposition (fire) may produce CO, CO₂, HCl, SO₂

☐ May occur ☒ Will not occur
None

8. SPILL OR LEAK PROCEDURES

Steps to be taken
if material is
released or spilled

Mop up or use dry absorbent

Waste disposal method

Acid-alum split
Refer to Data and Information Sheet for suggested procedure.

SPECIAL PROTECTION INFORMATION

Respiratory protection
(Specify type)

None

Ventilation

Local exhaust

Not normally required

Mechanical
(general)

General room ventilation should be sufficient

Special

None

Other

None

Protective gloves

None

Other protective
equipment

None

Eye protection

Safety glasses

10. SPECIAL PRECAUTIONS

Precautions to be taken
in handling and storing

Refer to Data and Information Sheet or container labels,

Other precautions

None

Date of preparation

August, 1988



master CHEMICAL CORPORATION
METALWORKING FLUIDS DIVISION
501 WEST BOUNDARY
PERRYSBURG, OHIO 43551-1263
PHONE: 419-874-7902
FAX: 419-874-0684
TELEX: 510-600-1600

Disclosure
than safety and medical purposes, is
prohibited without authorization of
OAKITE PRODUCTS, INC.

MATERIAL SAFETY DATA SHEET (MSDS)

OAKITE 33

27-M-10

ORIGINAL
(Red)

SECTION I

TRADE NAME

(If None, Put Chemical) Oakite 33

EMERGENCY TELEPHONE NO.

(201) 464-6900 (7AM-5PM)

CHEMICAL NAME AND SYNONYMS

MANUFACTURER'S NAME

AND TELEPHONE NO. Oakite Products, Incorporated

(800) 424-9300 (CHEMTREC)

ADDRESS (Number, Street

City, State, Zip Code) 50 Valley Road

Berkeley Heights NJ 07022

SECTION II - HAZARDOUS INGREDIENTS

%

TLV

PEL

UNITS

Phosphoric acid (CAS #7664 38 2)
2-Butoxyethanol (CAS #111 76 2) -skin
Non-hazardous ingredients*

65
18
17

1
25

1
50

MG/M3
PPM

*Unidentified ingredients are not considered
hazardous under the Federal Hazard Communication
Standard (29 CFR 1910.1200)

SECTION III - PHYSICAL DATA

BOILING POINT (°F)

NE

SPECIFIC GRAVITY (H₂O=1)

1.35

VAPOR PRESSURE (MM Hg.)

NE

PERCENT VOLATILE BY VOLUME (%)

> 30

VAPOR DENSITY (AIR=1)

> 1

pH (5% solution)

1.3

SOLUBILITY IN WATER

Complete

EVAPORATION RATE (BuAc = 1)

< 1

APPEARANCE AND ODOR

Light yellow to tan liquid; slight solvent odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)

NONE

FLAMMABLE LIMITS

LEL

NA

UEL

NA

EXTINGUISHING MEDIA

Use media suitable for surrounding materials.

SPECIAL FIRE

FIGHTING PROCEDURES Wear Self-Contained Breathing Apparatus (SCBA).

UNUSUAL FIRE AND

EXPLOSION HAZARDS None known.

NA - Not Applicable

NE - Not Established

UN - Unavailable

SYMPTOMS/EFFECTS OF OVEREXPOSURE

HAZARD INFORMATION

TLV

NE

coughing, sneezing, irritation and difficult breathing. Severe exposures may lead to chemical pneumonitis. Skin irritation or severe burns; BURNING SENSATION MAY BE DELAYED. Eye contact causes severe or permanent damage. This product contains 2-Butoxyethanol, which has caused liver and kidney damage and hemolytic anemia in test animals. ORIGINAL (23d)

FIRST AID

EYES Immediately flush eyes with large amounts of water for at least 15 minutes while holding the eyelids open. Get prompt medical attention.

SKIN Immediately remove contaminated clothing; wash skin with large amounts of water for at least 15 minutes. Get prompt medical attention.

INHALATION Move victim to fresh air and restore breathing if necessary. Stay with victim until arrival of emergency medical personnel.

INGESTION Contact local poison control center or physician IMMEDIATELY!

SECTION VI - REACTIVITY DATA

STABILITY Normally Stable.

INCOMPATIBLE MATERIALS Alkalies. Contact with metals may yield explosive Hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS Phosphorus oxides, Carbon monoxide, Carbon dioxide, Hydrogen

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURES Wear personal protective equipment (See Section VIII). Contain spill, add soda ash or lime, and place in poly-lined drums for disposal.

WASTE DISPOSAL METHOD Dispose of in accordance with Local, State, and Federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY If TLV is exceeded, or for symptoms of overexposure, wear a NIOSH-approved organic vapor respirator with a dust and mist pre-filter.

EYEWEAR If splash potential exists wear chemical splash goggles or faceshield.

CLOTHING/GLOVES If potential for skin contact exists, wear neoprene or other chemical resistant gloves and apron or coveralls and/or foot coverings, as needed.

VENTILATION Local exhaust may be necessary if material is heated, misted, or sprayed. Specific needs should be addressed by supervisory or health/safety personnel.

SECTION IX - SPECIAL PRECAUTIONS

CORROSIVE. Store in closed container in cool, well-ventilated area. NOTE: If diluting, always add this product slowly to water with constant stirring. Do not add this product to chlorine releasing materials.

APPROVAL

NAME

TITLE

DATE

Information contained herein has been developed based upon current available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its use or misuse.

Material Safety Data Sheet

Required under USDL Safety and Health Regulations
for Shipyard Employment (29 CFR 1915)

U.S. Department of Labor

Occupational Safety and Health Administration

OMB No. 1218-0074
Expiration Date 05/31/86

(Red)

Preparation Date July 8, 1985

Section I

Manufacturer's Name

HumiSeal Division, Columbia Chase Corp.

Emergency Telephone Number
718-932-0800

Address (Number, Street, City, State, and ZIP Code)

26-60 Brooklyn - Queens Expwy.

Chemical Name
and SynonymsTrade Name
and Synonyms

HumiSeal 1B31

Chemical
Family

Acrylic Coating

Formula

Section II - Hazardous Ingredients

Ingredients	CAS Number	%	TLV (Units)
Toluene	108-88-3	50	100 PPM
METHYL ETHYL KETONE	78-93-3	15	200 PPM

Hazardous Mixtures of Other Liquids, Solids or Gases	CAS Number	%	TLV (Units)

Section III - Physical Data

Boiling Point (°F)	212	Specific Gravity (H ₂ O=1)	.88
Vapor Pressure (mm Hg.)	49	Percent Volatile by Volume (%)	65
Vapor Density (AIR=1)	3.8	Evaporation Rate (BuAc = 1)	3.62

Solubility in Water

Negligible

Appearance and Odor

Straw colored liquid with aromatic odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) °F, T.C.C.	30	Flammable Limits	LeI 1.6	Uel 11.2
---	----	------------------	------------	-------------

Extinguishing Media

Foam, Carbon Dioxide, Dry Chemical

Special Fire Fighting Procedures

Fight as flammable liquid fire; wear self contained breathing apparatus

Unusual Fire and Explosion Hazards

Vapor is flammable and heavier than air and may travel to source of
ignition and flash back.

Threshold Limit Value

REFER TO SECTION 11

Effects of Overexposure

Vapors in high concentration may cause nausea and loss of appetite; laboratory animal liver enlargement, kidney, lung, spleen and brain damage, central nervous system effects.

Emergency First Aid Procedures

Skin contact - remove saturated clothing and wash skin with soap and water.
Eyes - irrigate with water. Inhalation - remove to fresh air.
Ingestion - do not induce vomiting. Consult physician promptly.

Section VI - Reactivity Data

Stability	Unstable	Conditions
	Stable	
	X	Not applicable

Incompatibility (Materials to Avoid)

Strong oxidizing agents

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide

Hazardous Polymerization	May Occur	Conditions to Avoid
	Will Not Occur	
	X	Not applicable

Section VII - Spill or Leak Procedures

Steps to be Taken in Case Material is Released or Spilled

Absorb with inert material (sand, vermiculite, etc.) Large spills may be scooped up with non-sparking tools. Remove source of ignition. Provide ventilation and/or respiratory protection.

Waste Disposal Method

According to local, state and federal regulations.

Section VIII - Special Protection Information

Respiratory Protection (Specify Type) Use hydrocarbon vapor canister or supplied-air respirator protection in confined or enclosed spaces if needed.

Ventilation	Local Exhaust Yes, Face velocity greater than 60 FPM	Special Use only with adequate ventilation - "adequate" meaning outdoors; no smoking or open lights
	Mechanical (General) Explosion proof; to keep vapors below TLV	Other

Protective Gloves

Yes - Chemical Resistant

Eye Protection

Chemical splash goggles or faceshield

Other Protective Equipment

Chemical resistant apron, eyewash station and safety showers should be available.

Section IX - Special Precautions

Precautions to be Taken in Handling and Storing

Keep away from heat, sparks and open flame. Ground containers when pouring to prevent free fall to a few inches to prevent static sparks.

Precautions

Red label material. Avoid prolonged skin contact and breathing of vapors. Emptied containers may retain hazardous properties. Do not cut, puncture or weld on or near container.

ORIGINAL
(Red)

Appendix D
Selected VDWM RCRA Files



Department of Health and Mental Hygiene
Office of Environmental Programs
Waste Management Administration • Hazardous Waste Division
P.O. Box 13387 • Baltimore, Maryland 21203 cc:VEG

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2000-0404. Expires 7-31-86

1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of 1		Information in the shaded areas is not required by Federal law	
VAD00324186609968		0102118					
3. Generator's Name and Mailing Address Bill Kolb 703/938-6300 Vega Precision Labs 800 Fallin Lane Vienna, VA 22180				A. State Manifest Document Number MDC 0102118			
4. Generator's Phone ()				B. State Generator's ID			
5. Transporter 1 Company Name GSX Services, Inc.				C. State Transporter's ID HWH: 1015 242403 DC: 3420			
6. US EPA ID Number MDD980554653				D. Transporter's Phone 301/953-3673			
7. Transporter 2 Company Name				E. State Transporter's ID HWH: DC:			
8. US EPA ID Number				F. Transporter's Phone			
9. Designated Facility Name and Site Address GSX Services, Inc. 3527 Whiskey Bottom Road Laurel, MD 20707				G. State Facility ID A207			
10. US EPA ID Number MDD980554653				H. Facility's Phone 301-953-3673			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity		14. Unit Wt/Vol	
a. WASTE, ORM-A, N.O.S.		No. Type				Waste No.	
X ORM-A NA1693		002 DM 000956				FO 02	
WASTE, PAINT RELATED MATERIAL							
X FLAMMABLE LIQUID NA1263		002 DM 000856				FO 05	
c. HAZARDOUS WASTE, LIQUID, N.O.S.							
X ORM-E NA9189		001 DM 000056				FO 03	
d.							
J. Additional Descriptions for Materials Listed Above				K. Handling Codes for Wastes Listed Above			
a. 1 4 1.2 3 4 0.9				a. 1 4 1.2 3 4 0.9			
b. 1 4 1.9				b. 1 4 1.9			
15. Special Handling Instructions and Additional Information VA. # MDD980554653-9							
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and Maryland Statutes or Regulations. Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment.							
Printed/Typed Name William Kolb				Signature William P. Kolb		Month Day Year 9 23 86	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature Jeff Shent		Date 09 23 86	
Printed/Typed Name JEFF SHENT				Signature		Date	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name				Signature		Date	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.							
Printed/Typed Name JOHN H. KEHOE				Signature John H. Kehoe		Date 09 23 86	

MDC 0102118

VEGA PRECISION LABORATORIES

A DIVISION OF GENERAL INDICATOR CORPORATION

ROBERT L. ROLAND
VICE PRESIDENT

May 27, 1982

ORIGINAL
(100)



Commonwealth of Virginia
Div. of Solid & Hazardous Waste Management
109 Governor Street
Richmond, Virginia 23219

Attention: Mr. William F. Gilley

Reference: VA D003241866

Dear Mr. Gilley:

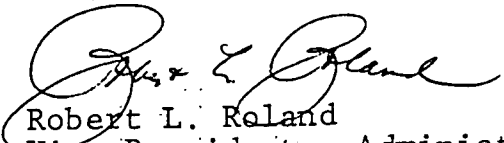
Vega Precision Laboratories has recently studied the current quantities of hazardous chemicals presently being stored and/or disposed of based on our normal production requirements.

Consequently, we have found that Vega does not store or dispose of sufficient quantities of hazardous materials/chemicals to qualify as an approved storage/disposal facility.

Therefore, Vega Precision Laboratories would appreciate your consideration and approval for the reduction in Vega's Classification to that of Small Generator of Hazardous Waste.

Very truly yours,

VEGA PRECISION LABORATORIES
Div. of General Indicator Corp.


Robert L. Roland
Vice President - Administration

RLR:mp

Enclosure: RCRA Checklist

Vega

November 17, 1986

Vega Precision Laboratories, Inc. **ORIGINAL**
A CompuDyne Company **(Red)**
800 Follin Lane
Vienna, VA 22180
(703) 938-6300
Telex: 892521

Ms. Renee C. Tyson
Div. of Solid and Hazardous
Waste Management
Va. State Health Department
101 N. 14th Street
Richmond, VA 23219



Dear Ms. Tyson:

As a result of our discussions with you and Ms. Garber during our meeting November 6, 1986 in your offices, the following information is submitted to elaborate upon our request for termination of Interim Status.

On September 19, 1986 we requested termination of our Interim Status to store hazardous waste, however due to events surrounding the receipt of two (2) drums of paint waste, this facility did, in fact, activate its previous interim status. Accordingly, we now submit closure information as required by regulation to terminate the interim status at this point (enclosed).

The circumstances leading to the above mentioned receipt of paint waste indicate that in the process of terminating our painting operations at a facility leased from the EG&G Corporation at 2818 Tower View Drive, Herndon, Virginia 22070, our employee transported, in a company vehicle, all of Vega's property including the above mentioned barrels of waste. This transport was accomplished without management's knowledge and not with any willful disregard by our employee of any hazardous waste regulations.

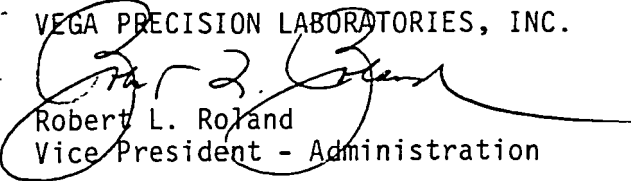
The subject waste containers were placed in the area which Vega had previously been authorized to store hazardous waste containers pending shipment by the GSX Corporation. They were immediately inspected by the appropriate Vega personnel and found to be in excellent condition. Absolutely no spillage and/or leakage occurred from the moment of arrival to the date of ultimate disposal on September 23, 1986 by the GSX Corporation (copies of manifest and chemical analysis are enclosed).

It is our sincere belief that while a violation did occur in our transport/receipt of this waste, Vega, who has always complied fully with all Waste Management regulations, will continue to fully comply with any and all regulations in the future. We therefore respectfully suggest that our original request for Interim Status termination be honored by your office.

If I can be of any further assistance or if further information is required, please call me.

Very truly yours,

VEGA PRECISION LABORATORIES, INC.


Robert L. Roland
Vice President - Administration

Encl.

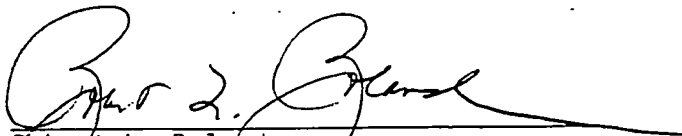
CompuDyne Defense Electronics Group

November 17, 1986

ORIGINAL
(Red)

The following information is submitted as the Vega closure/post closure plan:

1. Following arrival of the two (2) steel drums containing paint waste they were immediately inspected and found to be in excellent condition and the bungs were tightly sealed.
2. Plastic drum covers were immediately installed over the entire drum top.
3. Drums were placed on pallets in the approved and designated area.
4. A contents breakdown for both drums was requested from the painter. It was determined to be paints, paint thinner and solvents.
5. Material Safety Data Sheets were requested from the manufacturers of the waste products.
6. This was followed by a request to our transporter, GSX Corporation, to conduct an identification analysis of the materials.
7. Upon receipt of the Analysis reports, we proceeded to prepare the Material Profile Sheet.
8. Following this step, arrangements were made for GSX to pickup the subject material as shown on Manifests referenced in our cover letter.
9. At all times while this material was in our possession, the barrels were visually checked at least twice each work week. At no time did any leak or spillage occur.
10. Immediately following the removal of this material by GSX, the area was again visually checked as well as being swept and hosed down to insure the cleanliness of the area.


Robert L. Roland
Vice President Administration



ORIGINAL
(Red)

COMMONWEALTH of VIRGINIA

CYNTHIA V. BAILEY
EXECUTIVE DIRECTOR

DEPARTMENT OF WASTE MANAGEMENT
James Monroe Building, Eleventh Floor
101 North Fourteenth Street
Richmond 23219

VIRGINIA
WASTE MANAGEMENT
BOARD

JAMES R. CRAIG
BLACKSBURG
JAMES A. DAVIS
WINCHESTER
CHRISTOPHER DUERKSEN
FREDERICKSBURG
ANDREW HARGROVE
HAMPTON
JOAN MacCALLUM
LYNCHBURG
MICHAEL MARKELS, JR.
SPRINGFIELD
FRANK H. MILLER, JR.
HAMPTON

MEMORANDUM

TO: The File

FROM: Cindy Garber, Chemist *CG*
Bureau of Hazardous Waste Management

SUBJECT: VEGA Precision Laboratories
Vienna, VA 22180

On November 6, 1986 Cindy Garber and Renee Tyson met informally with Edward Holt, Personnel Manager, and Robert Roland, Vice-President, of VEGA Precision Laboratories (herein called the Company). The meeting was held to discuss with the Company the procedures necessary for closure of their drum storage area. The Company had interim status as a facility for drum storage; however, the Company had submitted a request for termination of their interim status prior to the storage of waste. Therefore, with the acceptance of waste on-site, the Company had activated its interim status and must follow closure procedures.

The Company explained that the waste (solvents and paint sludge) was generated off-site by Company personnel who were painting a building. The two drums of waste generated were then transported to the Company property and then shipped with a manifest for disposal. A copy of the manifest was left with Cindy Garber and Renee Tyson (herein after called the Bureau).

The Bureau explained the necessity for the submittal of a closure plan. The Company must also submit to the Bureau Certification from Company personnel and from a Professional Engineer that the closure was clean. This was also explained to the company. The Company agreed to submit a closure plan and certification of closure. Since the desire to terminate interim status still exists, the Company is also submitting a request for this to occur.

The Bureau will not be assessing any fines nor issuing a consent order. However, the Company was informed that failure to comply with the requested documentation would be a knowing violation that would require punitive action. The Company acknowledged this point. The Company was advised to call the Bureau should there be questions.

ORIGINAL
(Red)

January 1988

SURVEY SHEET
FOR INSPECTION OF HAZARDOUS WASTE FACILITIES

Name of Facility: VEGA PRECISION LABS

Address: 800 FOLLIN LANE

VIENNA VA 22180

EPA ID Number: VAD 0032 41 866

Facility Representative: WILLIAM KOLB, ROBERT E. OFFER

Title: PRODUCTION SUPPORT PROCESSES CONTROLLER, MANAGER

Telephone Number: (703) 938-6311

Inspector's Name: W.E. Lanford, E.S. Dameron

Title: Area Manager, Environmental Engineer Sr

Date of Inspection: MARCH 24, 1989

1. What is the business activity of the firm? (i.e., furniture mfg., metal plating, recycling, etc.)

manufacture electronic systems

2. Give a brief description of the waste stream(s) and hazardous waste code(s). F001 degreaser from assembly area (1,1,1-trichloroethane, 1,1,2-trifluoroethane, 90% ethane 8.9%, methanol & gum resin remainder). F003/F001 from Acetone solvent degreasing (from 70%, Acetone 12%, Ethane 3% remainder unknown). D001 paint shop solvents. D001 carbon sensitizers for plating process "Fluor etch" (Sodium naphthalene 30% and monobutyl glycol ether 70%). D002 inorganic removal bath carbon filtration system. D002 ammonium hydroxide solutions and copper chloride treatment baths.

3. List the amounts of hazardous waste generated on a monthly basis (use the highest monthly total) and the greatest amount accumulated at the site.

Waste Code	Amount Generated	Amount Accumulated
F001	15 gal/mo	7.5 gal
F003/F001	110 gal/mo	165 gal
D001 paint	10 gal/mo	18 gal
D001 other	5 gal/mo	10 gal
D002 / D008	10.0 gal/mo	55 gal
D002	2.5 gal/mo	10 gal

Vega

Vega Precision Laboratories, Inc.
A CompuDyne Company ORIGINAL
800 Follin Lane (Red)
Vienna, VA 22180-4994
(703) 938-6300
Telex: 892521
FAX: (703) 938-6111
FAX: (703) 938-6311

23 May 1989

Erica S. Dameron
Environmental Engineer, Senior
Division of Regulation
Department of Waste Management
11th Floor, Monroe Building
Richmond, Virginia 23219

Dear Ms. Dameron:

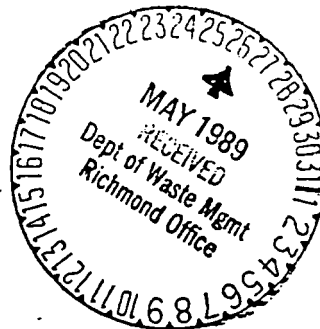
This letter is to certify that Vega Precision Laboratories, Inc., has completed all necessary actions as required by the approved closure plan dated November 17, 1986.

If you have any additional questions, please contact me at the above address.

Thank you,

VEGA PRECISION LABORATORIES, INC.

Paul A. Prychodnik
Paul A. Prychodnik
Vice President of Manufacturing



Vega

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ORIGINAL
"Pd"

6-30-89

Erica S. Dameron
Environmental Engineer Senior
Division of Regulation
Department of Waste Management
11th Floor, Monroe Building
101 N. 14th Street
Richmond, VA 23219

Re: VAD003241866

Dear Ms. Dameron:

As I promised you on your last site inspection, here is the revised facility diagram showing the location of all hazardous waste accumulation areas.

1. 5 gal. satellite accumulation container for the Test Dept.
2. 5 gal. satellite accumulation container for the Electronic Assembly Area.
3. 5 gal. satellite accumulation container for the solder wave machine.
4. 5 gal. satellite accumulation container for the Potting and Conformal Coating Area.
5. 55 gal. drum accumulation area for solvents used in the vapor degreasing machines.
6. Temperature sensitive chemical storage area, currently no hazardous wastes are accumulated here.
7. Corrosive materials storage area, all corrosive hazardous wastes are accumulated here.
8. Flammable material/Solvent storage area, all hazardous wastes of these types are accumulated here.

Page 1

9. Oxidizer storage area, all hazardous wastes of this type are accumulated here.
10. 55 gal. satellite accumulation container for the Paint shop hazardous wastes.

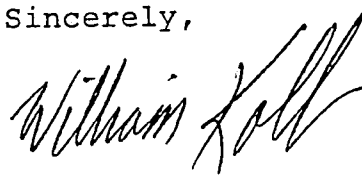
ORIGINAL
(Red)

All spill containment equipment is located in the temperature sensitive chemical storage area.

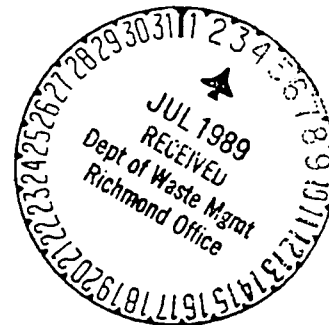
As of today I am no longer employed by Vega Precision Laboratories. The new Hazardous Waste Coordinator is Tim Murphy, Manufacturing Engineer, if you have any further questions please contact him.

It has been a pleasure working with you.

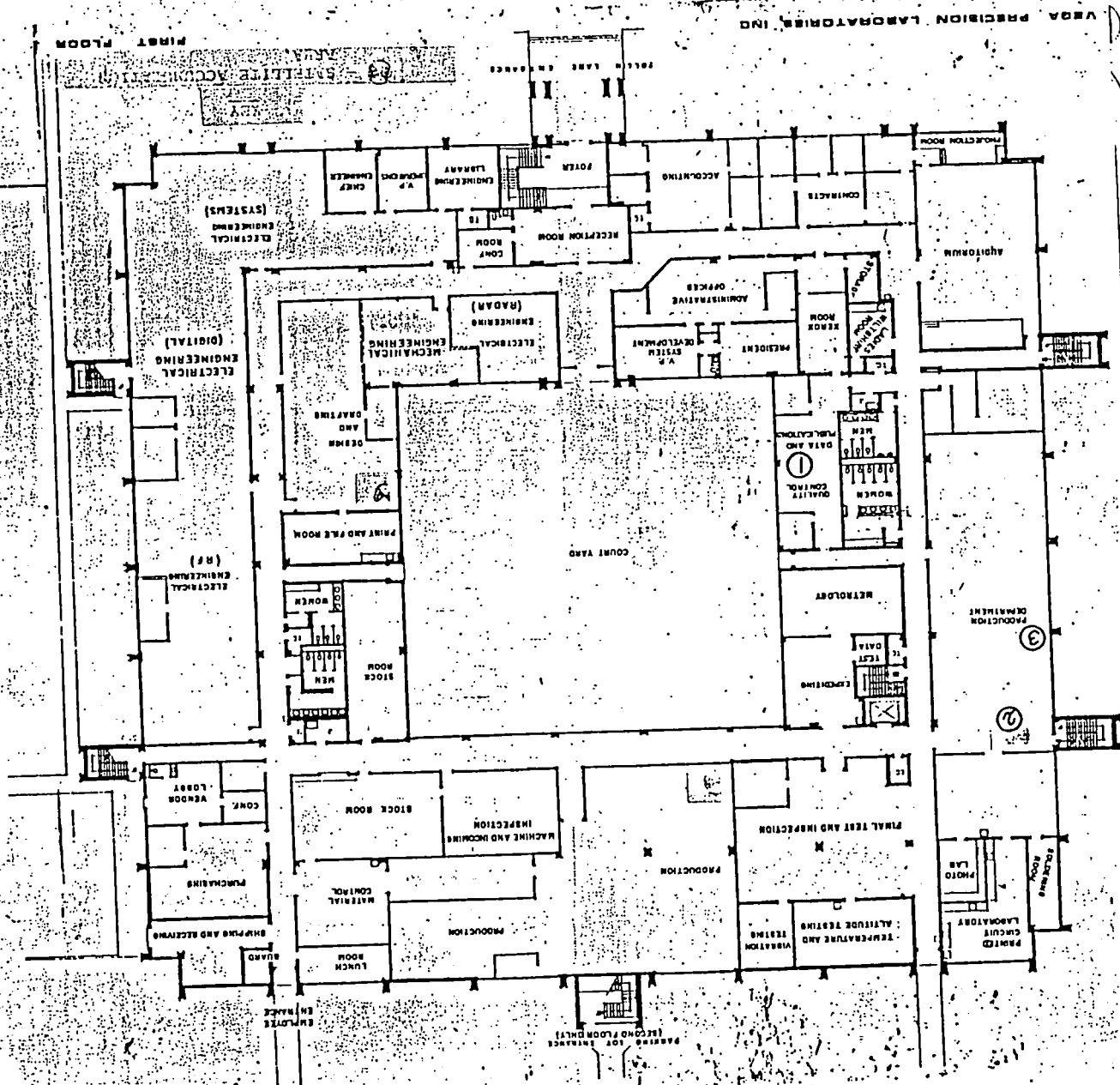
Sincerely,

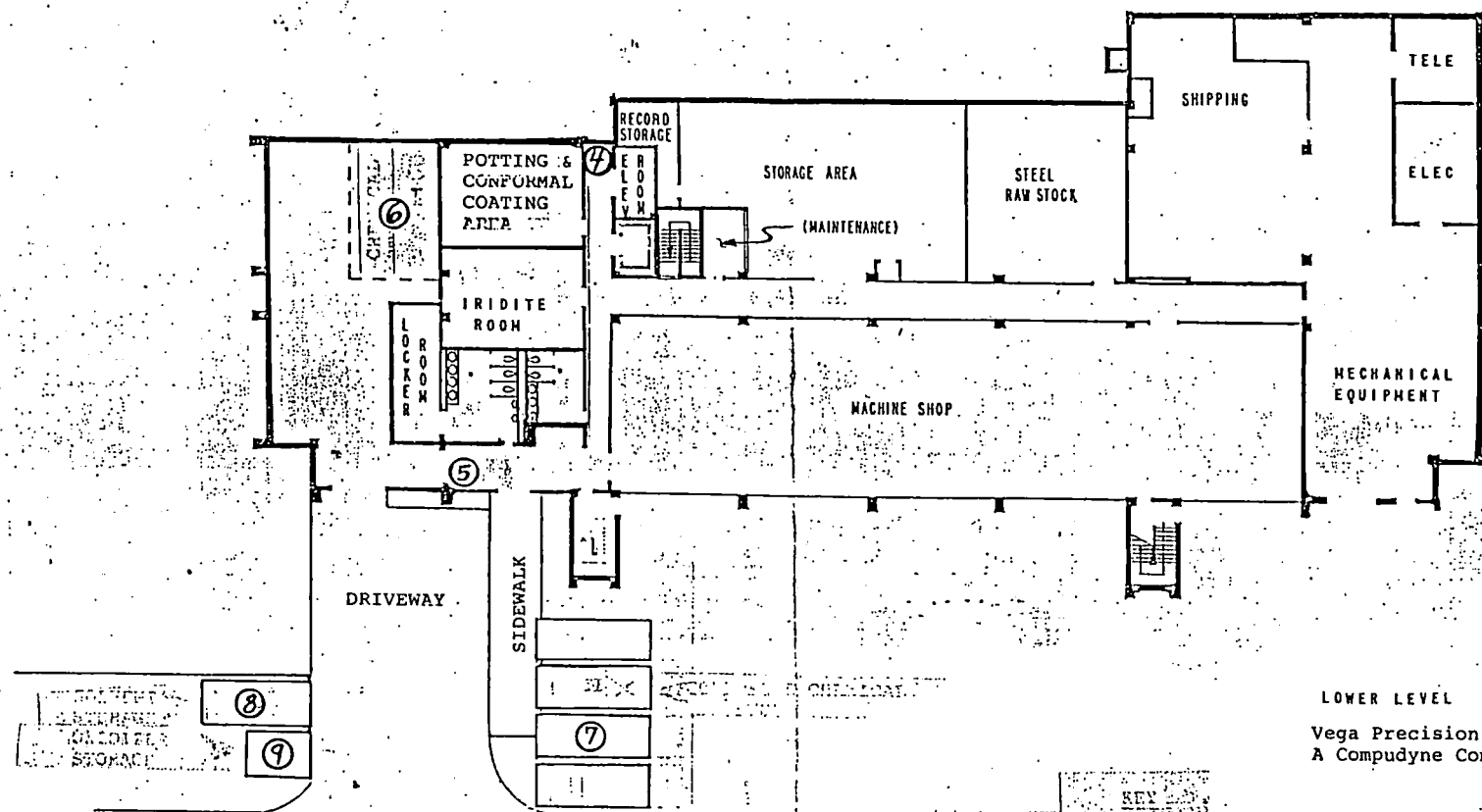


William Kolb



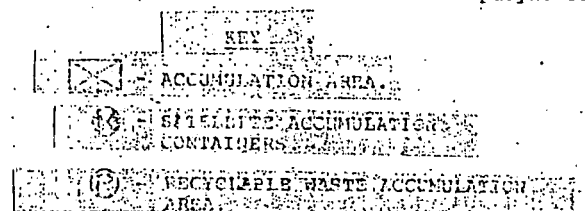
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(Red)





LOWER LEVEL

Vega Precision Laboratories, Inc.
A Compudyne Company



VEGA PRECISION LABORATORIES, INC.

PAINT SHOP

ORIGINAL
(Red)

ORIGINAL
(Red)

Appendix E
VPL Response to Original Report

Vega

Vega Precision Laboratories, Inc.
A CompuDyne Company
800 Follin Lane
Vienna, VA 22180-4994
(703) 938-6300
Telex: 892521
FAX: (703) 938-6311

ORIGINAL
(Red)

October 5, 1990

Russell A. Dudley
Environmental Program Analyst
Commonwealth of Virginia
Department of Waste Management
Eighteenth Floor Monroe Building
101 North 14th Street
Richmond, VA 23219

REF: Environmental Priority Initiative Preliminary Assessment
VA-469 for CompuDyne, Vega Precision Laboratories, Inc.

Dear Mr. Dudley:

Pursuant to our phone conversation this morning the following items provide more detailed information and suggested corrections for Vega Precision Laboratories' EPI Preliminary Assessment.

Item 1 Pg. 2 Sec. 1.3 (para. 1, line 2)

Vega Precision Laboratories, Inc. (VPL) began operation at our current location on April 22nd, 1972.

Item 2 Pg. 2 Sec. 1.3 (para. 2, lines 15-16)

VPL rented space within EG&G Corporations' Herndon facility in order for VPL personnel to accomplish the painting of VPL produced equipment. Cindy Garbers' memo on the November 6th, 1986 meeting with VPL executives (Appendix D) erroneously states that VPL personnel painted EG&Gs' building.

Item 3 Pg. 6 Sec. 4.1 (para. 1)

VPL manufactures radar transponders, command and control systems, antennas, and special test equipment for government and commercial customers throughout the world. VPLs' equipment primarily provides tracking and remote control for airborne vehicles.

* Enclosed are brochures that depict VPL, our product line, and customer base. Keep in mind that several of the facility photos show chemical processes, involved in manufacturing printed

circuit boards, which no longer exist at this facility.

Item 4 Pg. 6 Sec. 4.1-Text

I suggest replacing the word " transboder " (transponder) where it appears throughout the text with the word equipment. ORIGINAL
(Red)

Item 5 Pg. 6 Sec. 4.1 (para. 3, lines 8-11)

The mechanical assembly area combines printed circuit board assemblies along with numerous other subassembly components into functional equipment packages. Operations conducted in the mechanical assembly area include bonding, marking, wiring, fastening, etc.

* The injection molding of Eccofoam takes place only in the potting area of the paint shop.

Item 6 Pgs. 6-7 Sec. 4.1 (para. 3, lines 13-17)

Line 12 of the Eccofoam use description should be changed to read " is used in the potting area of the paint shop by " and the entire sentence move to the end of paragraph 1 on page 7.

Item 7 Pg. 7 Sec. 4.1 (para. 1, line 15-16)

Exhausted chromic acid solutions are pumped from the processing tanks into fifty five-gallon plastic drums and stored in the corrosive chemical storage container (SWMU #7) until picked-up by Laidlaw Environmental Services.

Item 8 Pg. 8 Sec. 4.2a, SWMU #3

Consists of a five-gallon metal container used to store waste Humiseal, contents estimated to be:

Acrylic Resin	40-50%
Polyurethane Resin	40-50%
Surfactants	< 5%
Aromatic Solvent	2%
Ketone Solvent	1%
Ester Solvent	1%

Item 9 Pg. 10 Sec. 4.2a, SWMU #6 (line 2)

" used in the trucking industry for maritime transportation. "

Item 10 Pg. 10 Sec. 4.2b, SWMU #1

This was were the five-gallon container used to collect Dynasolve 170/Eccofoam (see 4.2a SWMU #1) was kept when the subassembly

test/repair section was located in this area. There was not a ^{ORIGINAL}
SWMU for ink. _(Red)

Item 11 References

Kolb

If I can be of any further assistance please contact me at
(703) 938-6300 extension 509.

Sincerely,

A handwritten signature in cursive script that reads "William Kolb". The signature is written in dark ink and includes a long, horizontal flourish extending to the right.

William Kolb
Associate Engineer
Vega Precision Laboratories, Inc.